SEPTEMBER 2, 1944

Railway Age

Founded in 1856

TIMKEN BEARING EQUIPPED

high-speed freight cars roll up 2,303,010 miles on the UNION PACIFIC . . .

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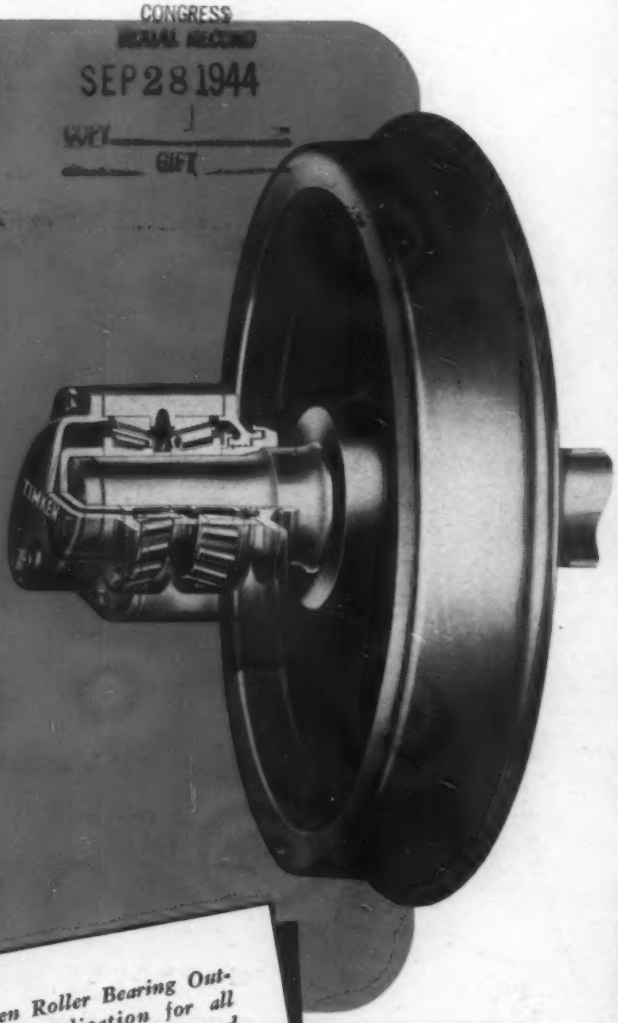
COPY
GIFT

The only freight cars in high-speed, main line service equipped with anti-friction bearings, are equipped with Timken Roller Bearings. One such installation, comprising 10 box cars, is on the Union Pacific Railroad, used in high-speed merchandise service.

These box cars have been in service 4 years and 10 months and during this time have averaged over 4,000 miles per month per car without a moment's trouble or delay due to bearings. The average mileage per car during this period was 230,300 miles. The highest total mileage credited to any single car is 265,649, made by car No. 9192.

Timken Roller Bearings now are available for all types of new high-speed freight car trucks. The Timken Roller Bearing Company, Canton 6, Ohio.



Timken Roller Bearing Outboard Application for all types of new high-speed freight car trucks.

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
RAILWAY ROLLER BEARINGS

Schaefer Appliances

STANDARD ON MOST ROADS

For High Speed Service
Use the New

Schaefer EVER-TITE Wear Plate

In the new Schaefer EVER-TITE wear plate, springs are introduced into the wear plate to save needless wear on the side frame brackets. The entire plate assembly is designed to fit firmly into side frame bracket, eliminating play and resultant wear. Especially recommended for high speed freight service.

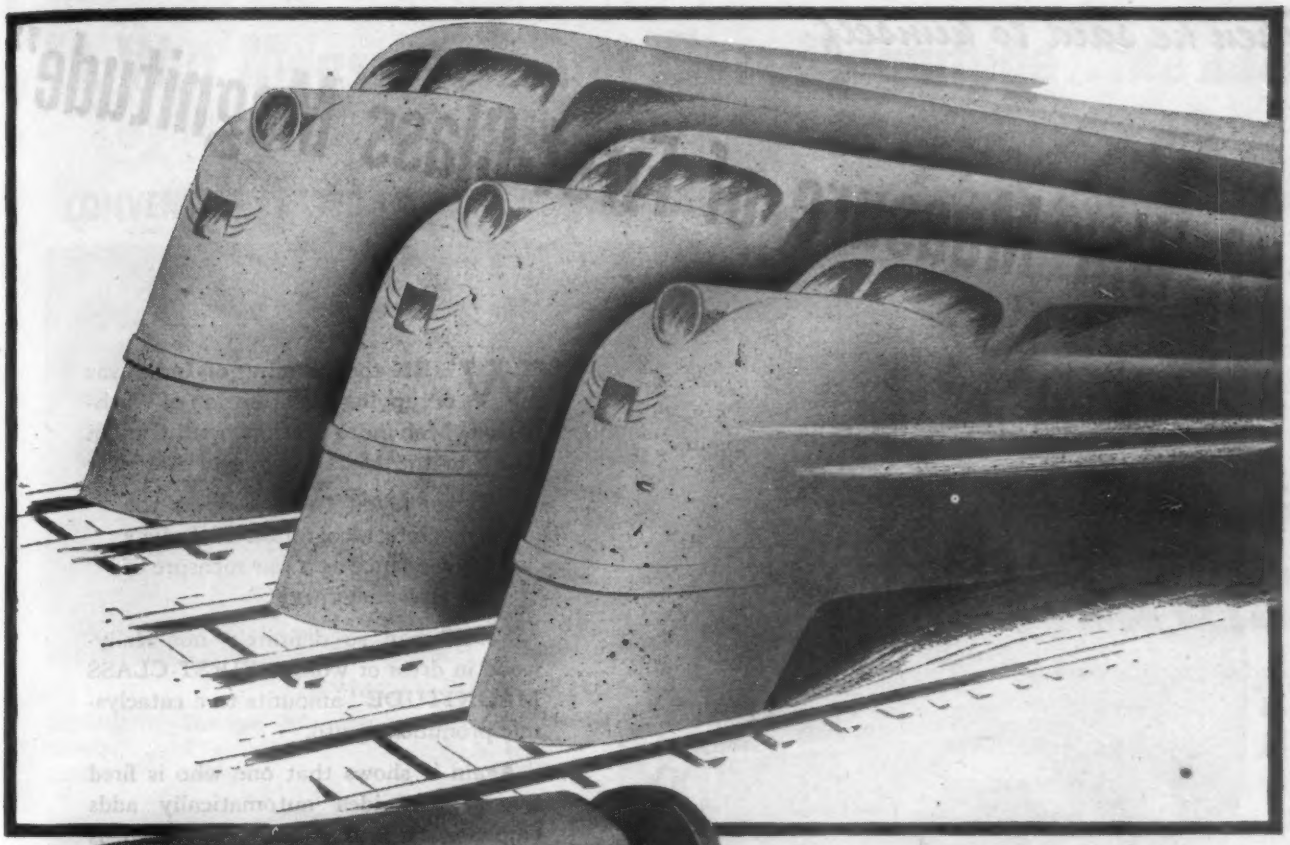
LIGHT WEIGHT DESIGN INSURES MORE THAN CAR LIFE

Schaefer **EQUIPMENT COMPANY**

KOPPERS BUILDING • PITTSBURGH, PA.

DROP-FORGED FOR LIGHT WEIGHT, HIGH STRENGTH, LONG LIFE AND SAFETY

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 117, No. 10.



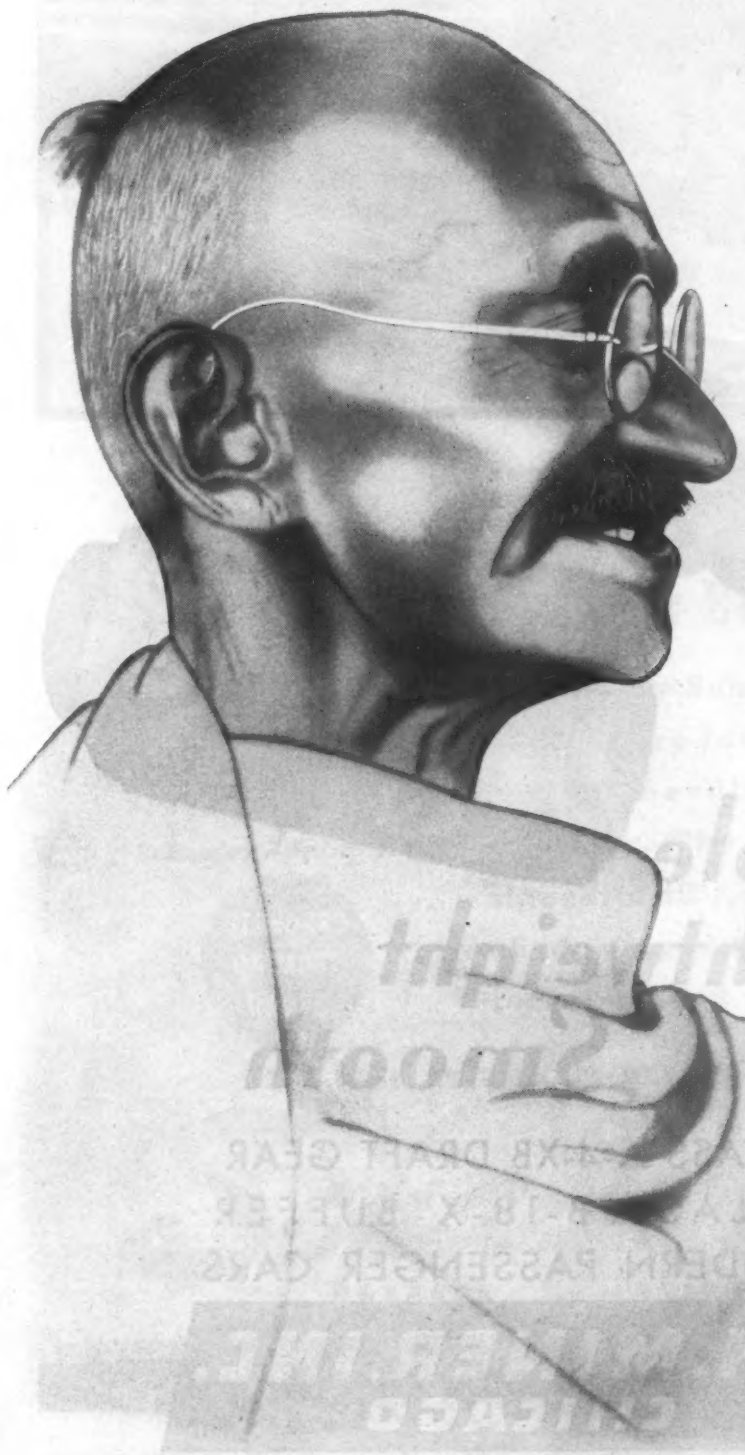
Durable Lightweight Smooth

MINER CLASS A-4-XB DRAFT GEAR
AND CLASS B-18-X BUFFER
FOR MODERN PASSENGER CARS

W. H. MINER, INC.
CHICAGO

Then he said to himself

"A War Measure of First-Class Magnitude"



WHEN the standing of India was occupying the attention of Washington, Mohandas Karamchand Gandhi wrote to the India League of America:

> "I want you to look upon the immediate recognition of India's independence as a war measure of first-class magnitude."

For a man so definitely non-Hollywood in dress or words "FIRST-CLASS MAGNITUDE" amounts to a cataclysmic pronunciamento.

Again it shows that one who is fired by a great idea automatically adds emphasis to enthusiasm! And *that* is an important business measure.

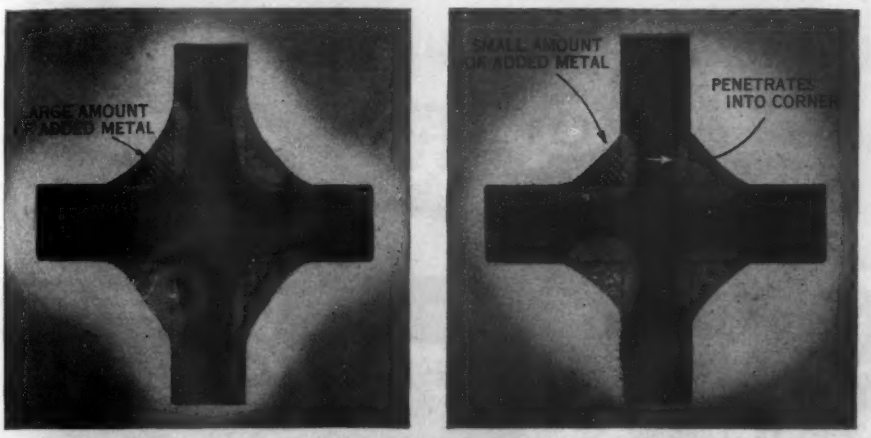
You saw it well illustrated when war conversion was hurled at manufacturers . . . and when "impossible" schedules were handed them.

Men were far from enthusiastic. Remember?

But viewed in the light of subsequent experience, those quotas for air, land and sea weapons today seem modest. All because aroused men quickly found out first-hand what Arc Welding could do. And when it did the job well, they became enthusiastic . . . which brings triumph to any front.

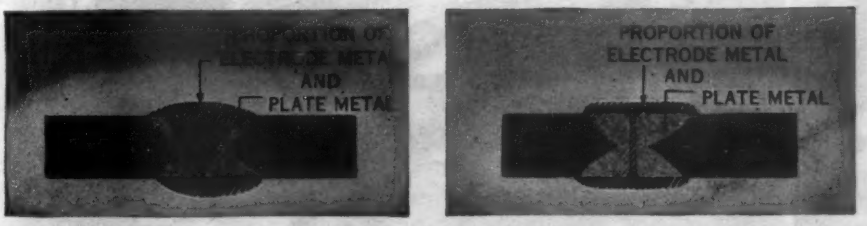
"A War Measure of First-Class Magnitude"...he says

CONVENTIONAL WELDING | **"FLEET-WELDING"**



TYPICAL FILLET WELDS

STRENGTH:	**Stronger than plate**	**STRENGTH:**	**Stronger than plate**
SPEED:	**5" per min.**	**SPEED:**	**12" per min.**
COST:	**100%**	**COST:**	**42%**



TYPICAL BUTT WELDS

STRENGTH:	**Stronger than plate**	**STRENGTH:**	**Stronger than plate**
SPEED:	**2" per min.**	**SPEED:**	**9" per min.**
COST:	**100%**	**COST:**	**25%**

LOOK, MAHATMA: While you pondered on the magnitude of political measures for winning, Lincoln Engineers were enthusiastically working out a very practical measure that is away out in front in magnitude:

"FLEET-WELDING"

A First-Class Production Measure ... of First-Class Magnitude

This new, revolutionary technique using "ARC-FORCE" to speed the welding of all types of joints in plate, shapes and sheet is bringing back reports of 25% to 75% faster welding . . . also savings in electrode material and power. Cases also are reported where back-chipping and plate beveling are eliminated.

The savings shown at left are typical of this new technique developed by Lincoln engineers.

A Lincoln engineer is available nearby to help you apply "Fleet-Welding" Technique. Write for Bulletin No. 440 which gives complete explanation of the simple technique and the welding procedures.

THE LINCOLN ELECTRIC COMPANY
CLEVELAND, OHIO

America's greatest natural **recourse**

ARC WELDING

Then he said to himself

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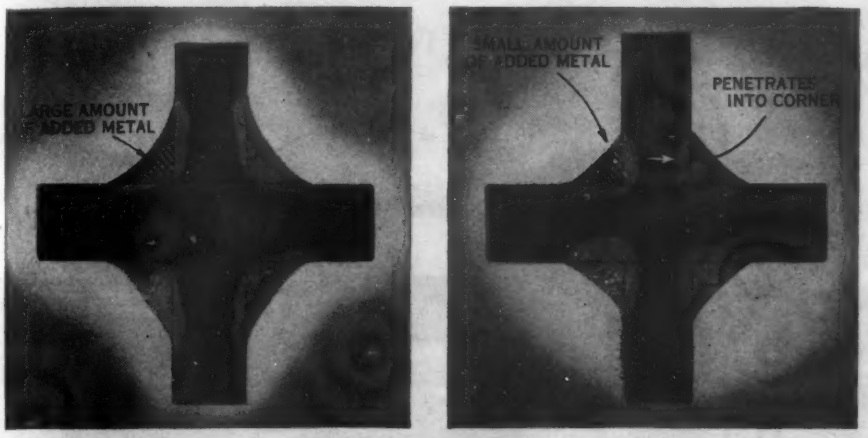

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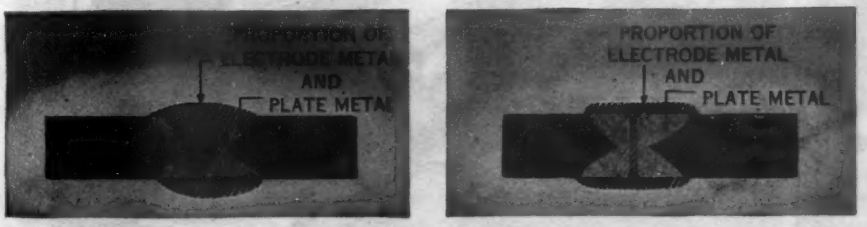

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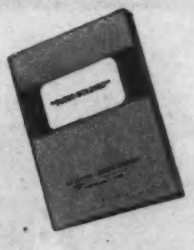

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THE LINCOLN ELECTRIC COMPANY
CLEVELAND, OHIO

America's greatest natural **recourse**

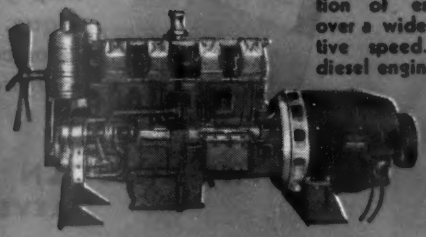
ARC WELDING

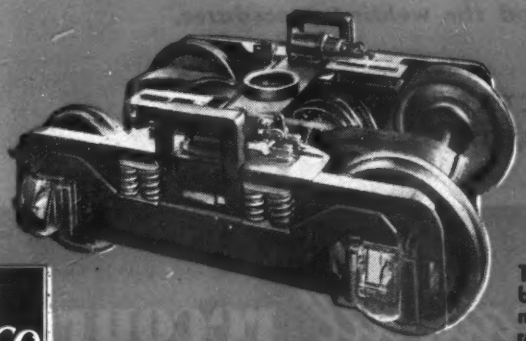
"These diesel-electrics

THESE FEATURES MAKE THIS LOCOMOTIVE

The engineer has an unobstructed view of the tracks. The conveniently grouped throttle, and air-brake handles are within arm's length, and the engineer can see the instrument panel without diverting his attention from the tracks.

The electric drive on this 44-ton locomotive is made specially for railroad service. It provides full utilization of engine horsepower over a wide range of locomotive speed. The four-cycle diesel engine and its generator are mounted on a common bedplate to assure perfect alignment.



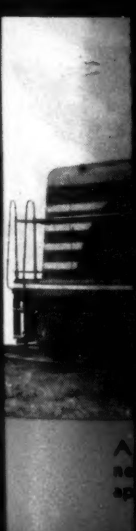


Two-axle equalized swivel trucks provide a flexible wheelbase which, with the light axle loading, enables these locomotives to negotiate sharp curves without rail-climbing or rail-spreading.

Alco GE

AMERICAN LOCOMOTIVE

VE EASY



E a r

GE Septemb

pay dividends 3 ways

1. MORE WORK—by handling a 60% increase in switching

2. LESS EXPENSE—by reducing operating cost 30%

3. GOOD WILL—by eliminating noise and soot"

H.W. Jones, Freight Agent
New York, Ontario & Western

AT 30 per cent less operating cost, the NYO & W is handling 60 per cent more switching at Fulton, N. Y., with two 380-hp diesel-electrics than it did with the two steamers they released. The diesel-electrics, available 24 hours a day, are providing extra locomotive-hours by eliminating time-consuming stops for fuel, water, and servicing. They carry a sufficient fuel supply for 50 to 60 hours of operation.

Since they were placed in service, a little less than three years ago, these diesel-electrics have been making an attractive return on their investment. Water costs that amounted to $1500 a year have been eliminated. Fuel costs per diesel-electric locomotive-hour are $.45 as against $2.10 per locomotive-hour for the steamers. And engine-house expense has been cut 30 per cent.

The NYO & W's shippers like the diesel-electrics too! One plant, manufacturing an army food product, reports that, since the smoke and soot nuisance of the steamers has been eliminated, its high cleanliness standards are easier to maintain. At another plant, where the noise of the steamers distracted office workers and interrupted important conferences, the diesel-electrics work unnoticed.

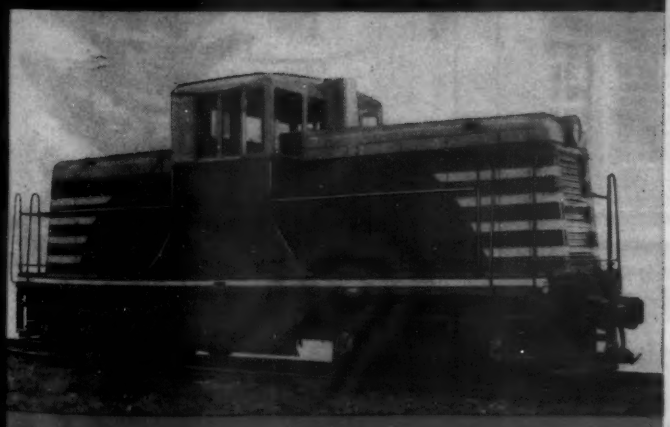
When applied to all three jobs for which it is admirably suited—switching, transfer service, and road work up to 35 mph—this diesel-electric will produce notable operating economies. Its versatility and average availability of 95 per cent permit almost continuous utilization—thereby increasing its earning power.

For heavier motive-power requirements, Alco-G.E. builds a complete line of diesel-electrics which includes 660- and 1000-hp switchers, a 1000-hp road switcher, and a 2000-hp road locomotive. They are backed by more than 150 years of combined experience in engineering, building, and applying motive power for railroads. We build all three types of motive power—diesel-electric, electric, and steam—and will welcome an opportunity to recommend the one which is best suited to your particular operation.

115-90

BUY WAR BONDS

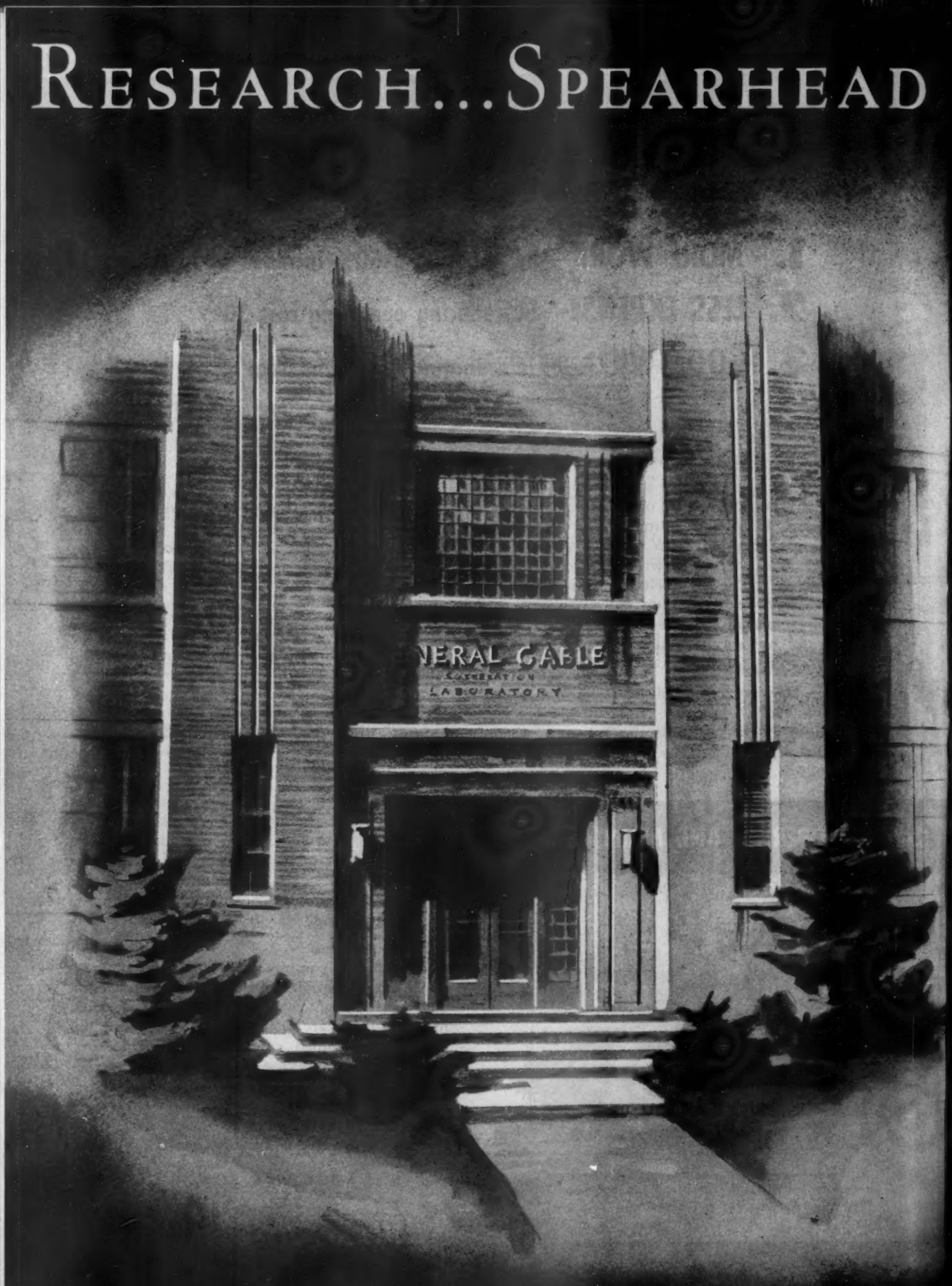
EASY TO OPERATE AND MAINTAIN



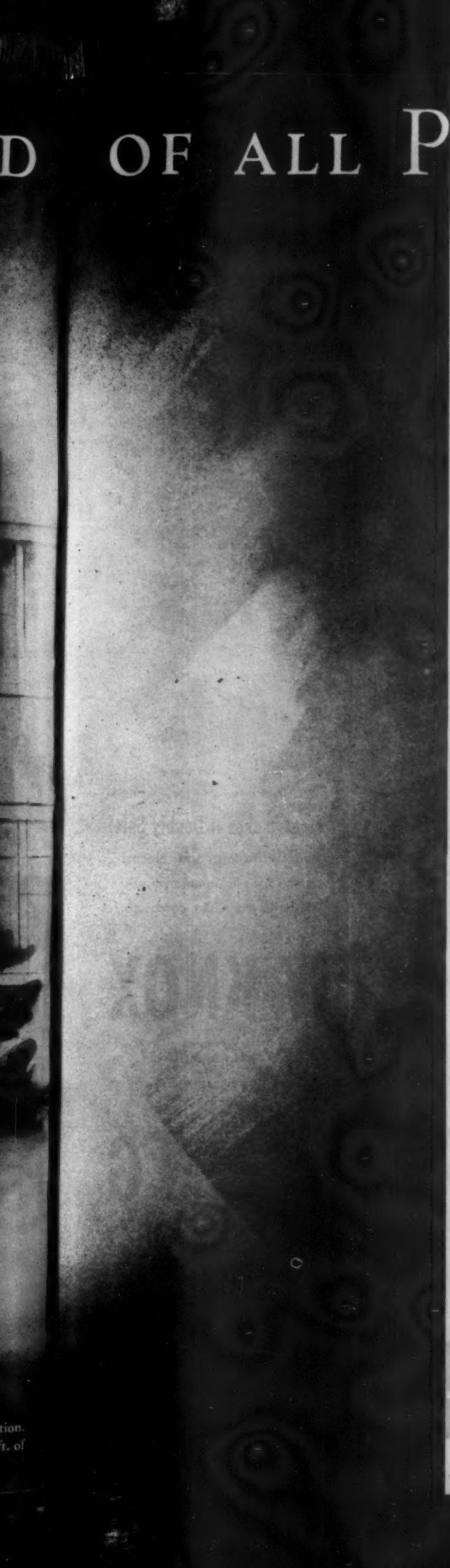
All-welded construction produces the sturdiness necessary for railroad operation, and the smooth appearance of this "sleekline" locomotive.

and GENERAL ELECTRIC

RESEARCH...SPEARHEAD



The 80 practical specialists who work in this magnificent building at Bayonne, N. J., have every facility—chemical, physical, metallurgical—to aid them in bringing nearer their goal—extending to the utmost the effective means of electrical transmission and distribution. Built in 1941, the structure has already grown to 60,000 sq. ft. of floor space—is planned for further expansion as needed.



D OF ALL PROGRESS...

THE FIRST GREAT LABORATORY DEVOTED EXCLUSIVELY TO RESEARCH ON ELECTRICAL WIRES AND CABLES

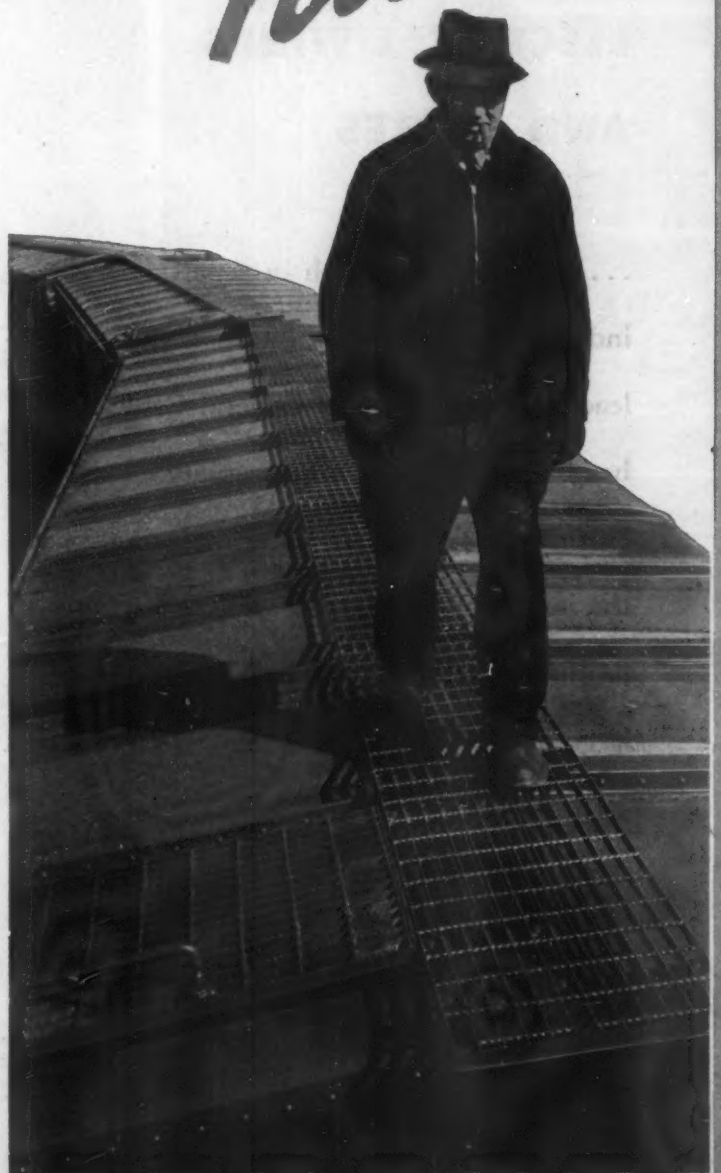
... thus "basic research in a particular industry devolves naturally upon the leading manufacturer." General Cable has been alert to its responsibility. In this great Laboratory are maturing the insulation discoveries and product developments which will loom large in days ahead.

GENERAL CABLE CORPORATION

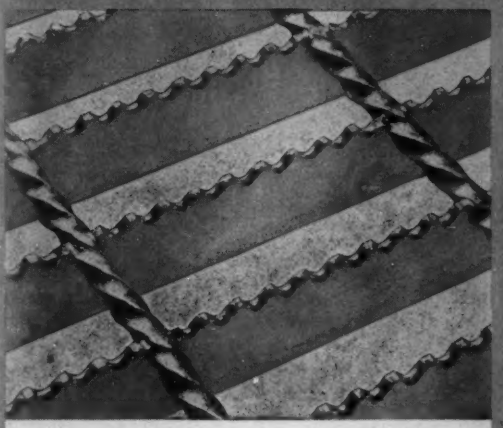
Manufacturers of Bare and Insulated Wires and Cables for Every Electrical Purpose

THE RAILROAD MAN IS A VITAL WAR WORKER

Protect him!



Blaw-Knox running boards are SAFE... and STRONG! Made with *twisted cross bars* (*an exclusive feature*) and *serrated edge bearing bars* they deliver sure footing in any weather for the men who are delivering the goods!



It's the Twist... that makes it Doubly Safe!

Twisted, to prevent slipping, and electro forged into one piece for maximum strength. Galvanized or painted to resist corrosion.

BLAW-KNOX

Electroforged Steel

NON-SLIP

RUNNING BOARDS

AND BRAKE STEPS

BLAW-KNOX DIVISION OF BLAW-KNOX COMPANY

2061 FARMERS BANK BUILDING, PITTSBURGH, PA.

After Victory—

NEW BEAUTY...LOWER MAINTENANCE COST...WITH INTERIOR OF VELON*

Passengers may be all too easy to get these days, but when the war is over, what then? Airlines, railroads, bus lines will again *compete* for business.

Right now is none too soon to start thinking about what *you'll* do to get passenger traffic.

It's time to consider "Interior of *Velon*" to *brighten eye appeal — yet cut maintenance cost!*

For seating, curtains, shades and trim, *Velon* makes *every* light or bright color *practical* for even the heaviest traffic — opens a whole new world of color possibilities.

For *Velon* is non-fading, non-inflammable and stainless. It's completely non-absorbent! It can be wiped clean and colorful as new in a few seconds with a damp cloth.

In three years of hard wartime use, test installations of Velon have shown no signs of wear — no slightest change in color.

We're sorry there isn't much *Velon* available now. It all goes to the armed forces. But any time you want to discuss how *Velon* fits into your postwar plans, don't hesitate to write.

P. S. For completely modern seating, specify FOAMEX. Firestone's latex foam.

For the best in music, listen to the Voice of Firestone Monday evenings over the entire NBC Network.

ANOTHER CONTRIBUTION TO A BETTER WAY OF LIFE...by **Firestone**

*TRADEMARK • PRONOUNCED VEL-LON

...and millions like him

BUT KEEP THAT GUARD UP!

GENERAL MACHINERY CORPORATION

HAMILTON, OHIO

THE NILES TOOL WORKS CO.

THE HOOVEN, OWENS, RENTSCHLER CO.

GENERAL MACHINERY ORDNANCE CORPORATION


CLEARS TRACK FASTER!
THE NEW ORTON-DREADNOUGHT
DIESEL WRECKER
Saves Time!
Keyed to the Age of Streamlined Trains
● No need for outriggers when rerailing light loads. The Orton Diesel Dreadnought is balanced so that high-boom can safely be swung without outriggers. Saves hours of time on 90% of wrecking jobs.
● No signalman necessary. Operator has complete view of load at all times. Unobstructed view from cab gives operator confidence in safe handling under all conditions.
● No boiler fire to maintain between emergencies.
● No boiler to clean, no tubes to repair with risk of lay-up when wreck call comes in.
● Alloy steels, welded construction, anti-friction bearings, sensitive air-controls make this modern Dreadnought a compact, streamlined machine far removed from the awkward, inaccessible designs now relics of the days of low-strength materials.
Send for detailed specifications.
ORTON
CRANE & SHOVEL CO. • 608 S. Dearborn St., Chicago

Don't Penalize THE NEW LIGHTWEIGHT MATERIALS WITH HEAVY INSULATION

Armed with new ammunition in the form of lightweight structural materials, railway men are eager to resume the age-old battle against deadweight. Naturally, they do not propose to gain ground with the new lightweight structural materials and then lose it to heavy insulation materials. The new, basic, lightweight insulating material—Fiberglas*—imposes no penalty. Instead, its lightness complements that of any of the new structural materials.

As a matter of fact, Fiberglas* effects savings of several hundred pounds per car. This could be enough to offset the deadweight of the super-efficient cooling and heating system planned for the passenger car of tomorrow.

In Fiberglas* lightness of weight is accomplished with no sacrifice of thermal efficiency. It excels in ability to prevent waste of the end product of the cooling and heating system—healthful comfort—the keynote to future traffic volume. G-B sales engineers are equipped to supply technical data and information regarding installation which should be helpful in the early stages of your planning. Write, wire or call

GUSTIN-BACON
MANUFACTURING COMPANY
KANSAS CITY 7, MISSOURI

NEW YORK PHILADELPHIA CHICAGO
TULSA HOUSTON SAN FRANCISCO

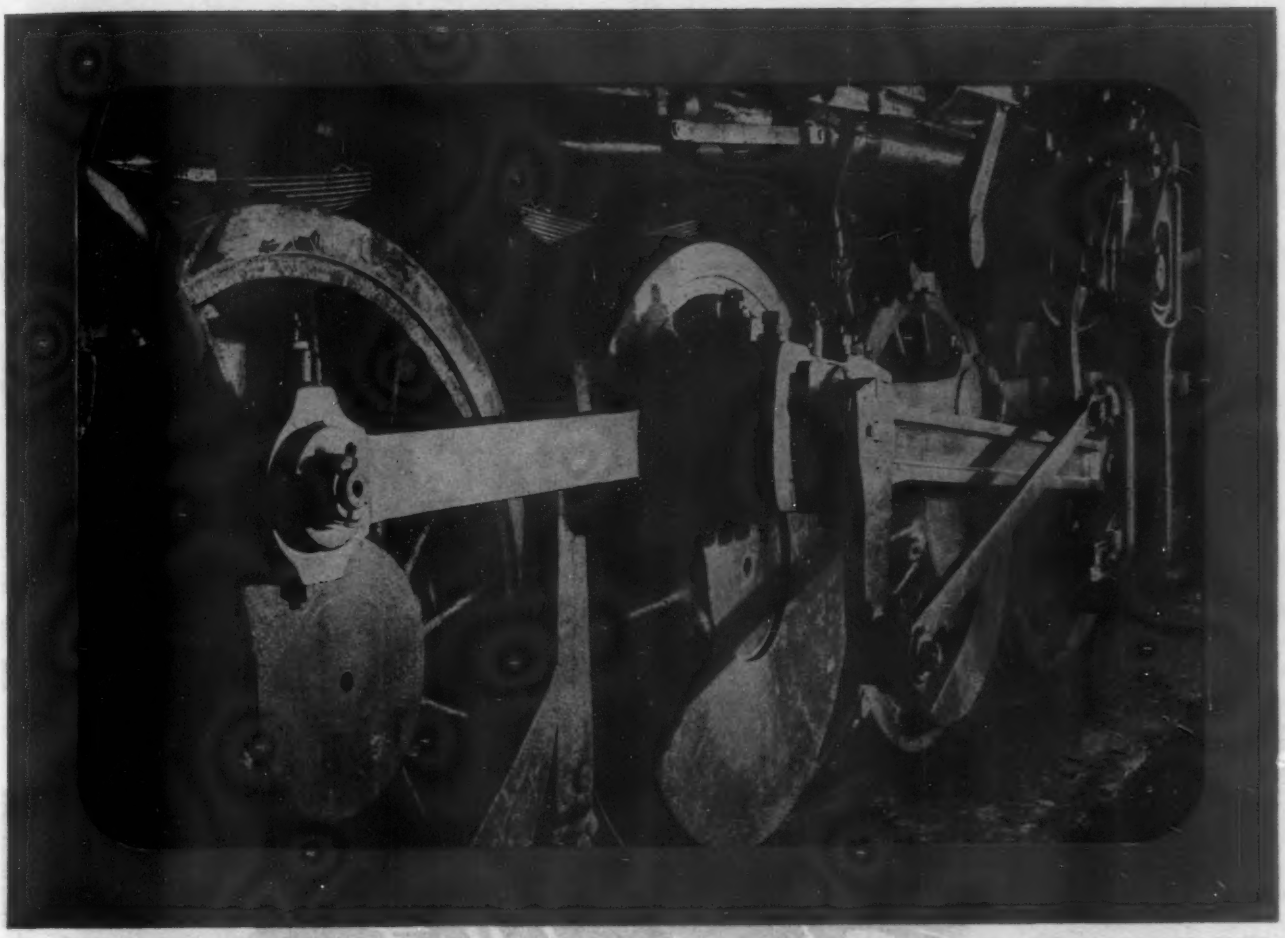
FIBERGLAS* OFFERS ALL 7 OF THESE ADVANTAGES!

1. **LIGHT WEIGHT**—combined with high acoustical and thermal insulating efficiency at low densities.
2. **FIRE-SAFETY**—Fiberglas does not have to be "flame-proofed" or made "fire-resistant"—being pure mineral it is incombustible—it cannot burn.
3. **INORGANIC**—Fiberglas is "clinically clean"—will not rot, support fungus growth or feed vermin. Non-hygroscopic; fibers cannot absorb moisture.
4. **DURABLE**—Fiberglas is permanent—will not decay—will not settle, sag or pack under vibration.
5. **UNIFORM**—Materials, densities and dimensions are precision-controlled at the factory.
6. **EASILY-HANDLED**—Furnished in convenient sizes and forms—easily installed by standard methods of application.
7. **ECONOMICAL**—High efficiency, light weight, permanence and ease of installation all combine for real savings in building, operation and maintenance of equipment.

*Trademark Reg. U. S. Pat. Office by Owens-Corning Fiberglas Corp.

G-B MFG CO.

RAILWAY INSULATIONS made of FIBERGLAS*



FOR WEAR-RESISTING RECIPROCATING PARTS

. . . No Other Material Can Equal ALLOY STEELS

Back and forth—back and forth—move reciprocating parts and assemblies with friction trying its best to wear away slides, pins, bushings or other bearing surfaces.

Wear always has been a vital problem since the first machine was built—but today its effects have been minimized through the use of alloy steels.

No other material can equal the hardenability of alloy steels. They can be surface hardened or deep hardened with equal assurance of uniform results. They insure against non-hardened or soft spots in wearing surfaces.

And, at the same time, they provide the high strength-to-weight ratios—the resistance to severe strains, shock, fatigue, high temperatures, sub-zero cold or corrosion—that reduce weight or increase payloads, and cut maintenance and replacement costs by extending service life.

Whatever the problem, put it up to a Republic metallurgist. With the experience of the leader in alloy steel making at his command, he is well qualified to give you the correct answer.

REPUBLIC STEEL CORPORATION
Alloy Steel Division • Massillon, Ohio
GENERAL OFFICES • CLEVELAND 1, OHIO
Berger Manufacturing Division • Culvert Division
Niles Steel Products Division • Steel and Tubes Division
Union Drawn Steel Division • Truscon Steel Company
Export Department: Chrysler Bldg., New York 17, N. Y.

Republic
ALLOY STEELS

Also Carbon and Stainless Steels—Sheets—Strip—Pipe—Tubing, Bars and Rivets—Electric Resistance Tubing

Stunning Effects

IN LUXURIOUS RAILWAY CARS

DESIGNERS of the leading American Luxury trains, produced during the past ten years, have found Formica laminated plastic architectural sheet an adaptable material for all those surfaces inside a railway car that have to stand the most severe service.

Table tops, bar counters, toilet room shelving and window stools are a few of the uses to which the material has been put.

It is provided in a wide range of colors to harmonize with any desired effect. Horizontal surfaces are made cigarette proof, and they are uninjured by alcohol, fruit acids, cleaning alkalies. Formica surfaces provide beauty that will stand up and retain its attractiveness under the most severe conditions.

"The Formica Story" is a moving picture in color showing the qualities of Formica, how it is made and how it is used. Available for meetings of designers and business groups.

THE FORMICA INSULATION COMPANY
4641 Spring Grove Avenue, Cincinnati, Ohio

ARMY E NAVY

FORMICA

I PREDICT...

by Morris Sanders

Industrial Designer of New York

The kitchen of tomorrow will have no taint of the drudgery that characterized it in the past. A symbol of its efficiency will be the new refrigerators you will buy with your War Bonds. I have designs in my files for a horizontal, counter-height refrigerator that enables the housewife to see its entire contents without wearisome stooping. It has multiple compartments with varying degrees of temperature from "deep freeze" to "cool", and a special "private" compartment for ice cubes. There will be no wholesale release of cold air every time the refrigerator door opens, consequently it will be more economical. Furthermore, its cubic area will allow for more actual storage space than in the past.

NOTE: The Weatherhead Company, one of the oldest and most important manufacturers of parts for the refrigeration industry, is prepared for the day when its four plants will be contributing as actively to peace as it has now to the country's refrigeration needs.

Look Ahead with

Weatherhead

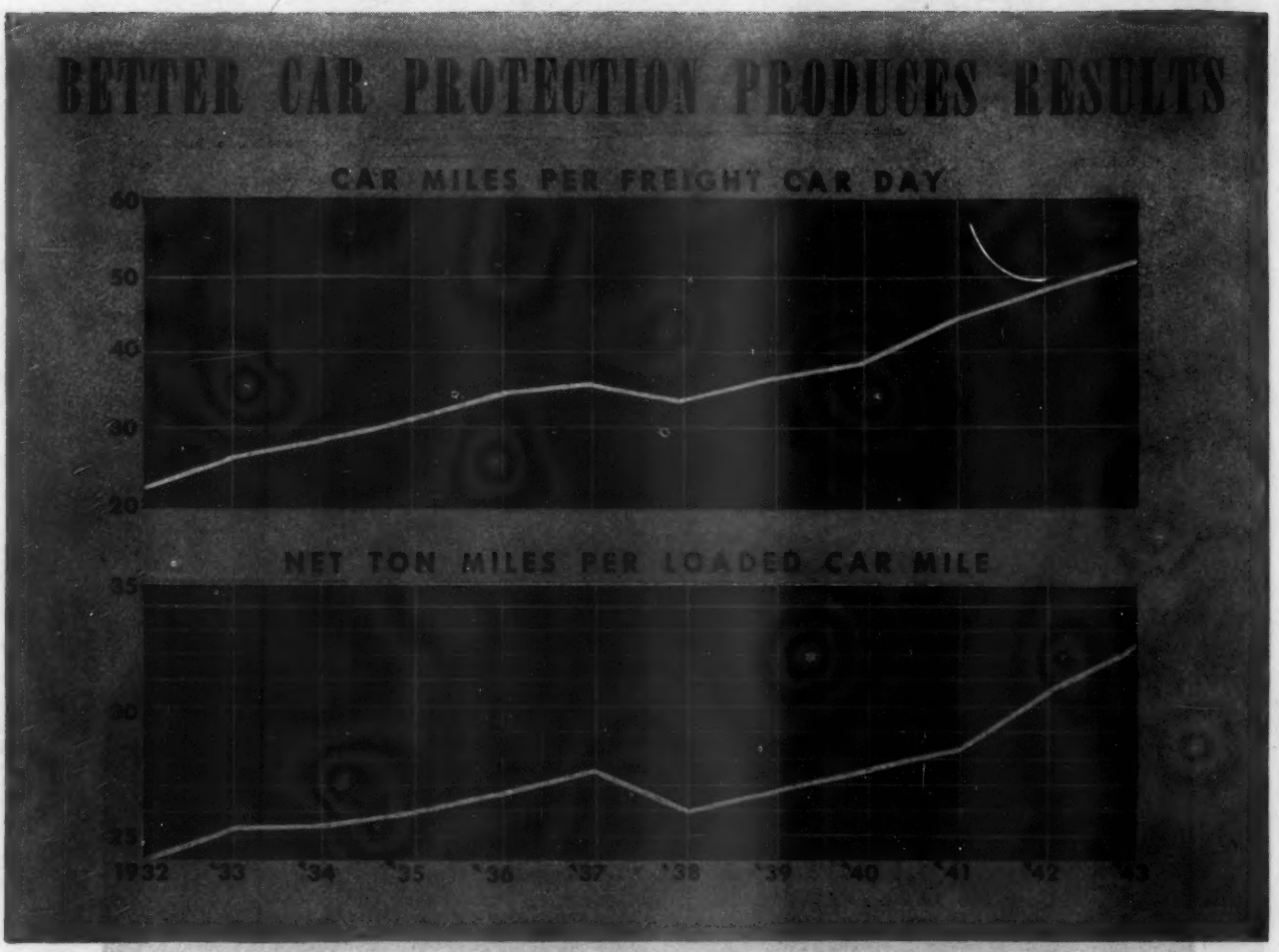
THE WEATHERHEAD COMPANY, CLEVELAND, OHIO

Manufacturers of vital parts for the automotive, aviation, refrigeration and other key industries

Plants: Cleveland, Columbia City, Ind., Los Angeles
Canada—St. Thomas, Ontario

FREE: Write on company letterhead for "Seeds Of Industry"—a history of The Weatherhead Company, its many facilities and diversified products.

BETTER CAR PROTECTION PRODUCES RESULTS



As shown in the above diagram, both car mileage per freight car day and net ton miles per loaded car mile have been materially increased during the last twelve years, greatly increasing the shocks to which freight cars are subjected in switching and train movements.

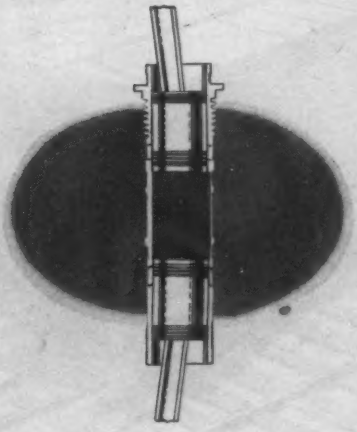
Meantime, shortage of help has curtailed the scope of preventive maintenance. Yet the cost of freight car repairs per ton mile has been decreased over 10% since 1932—resulting from improvement in operating practices, freight car standards, and shock absorbing devices.

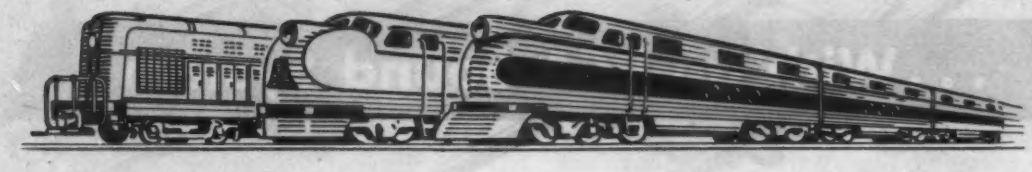
Over 98% of the cars in freight carrying service are A.A.R. construction, and over 96% have Friction Draft Gears.

Cardwell Westinghouse Draft Gears and Friction Bolster Springs meet the greater shock protection requirements of the accelerated and heavier traffic.

CARDWELL WESTINGHOUSE CO., CHICAGO
CANADIAN CARDWELL CO., LTD., MONTREAL

What Is the *Opposed-Piston* Diesel?





TEN cylinders . . . in each, two pistons driven apart by a central explosion . . . no cylinder heads . . . no valves . . . a minimum of moving parts . . . less bulk . . . less weight; this is the Fairbanks-Morse opposed-piston Diesel.

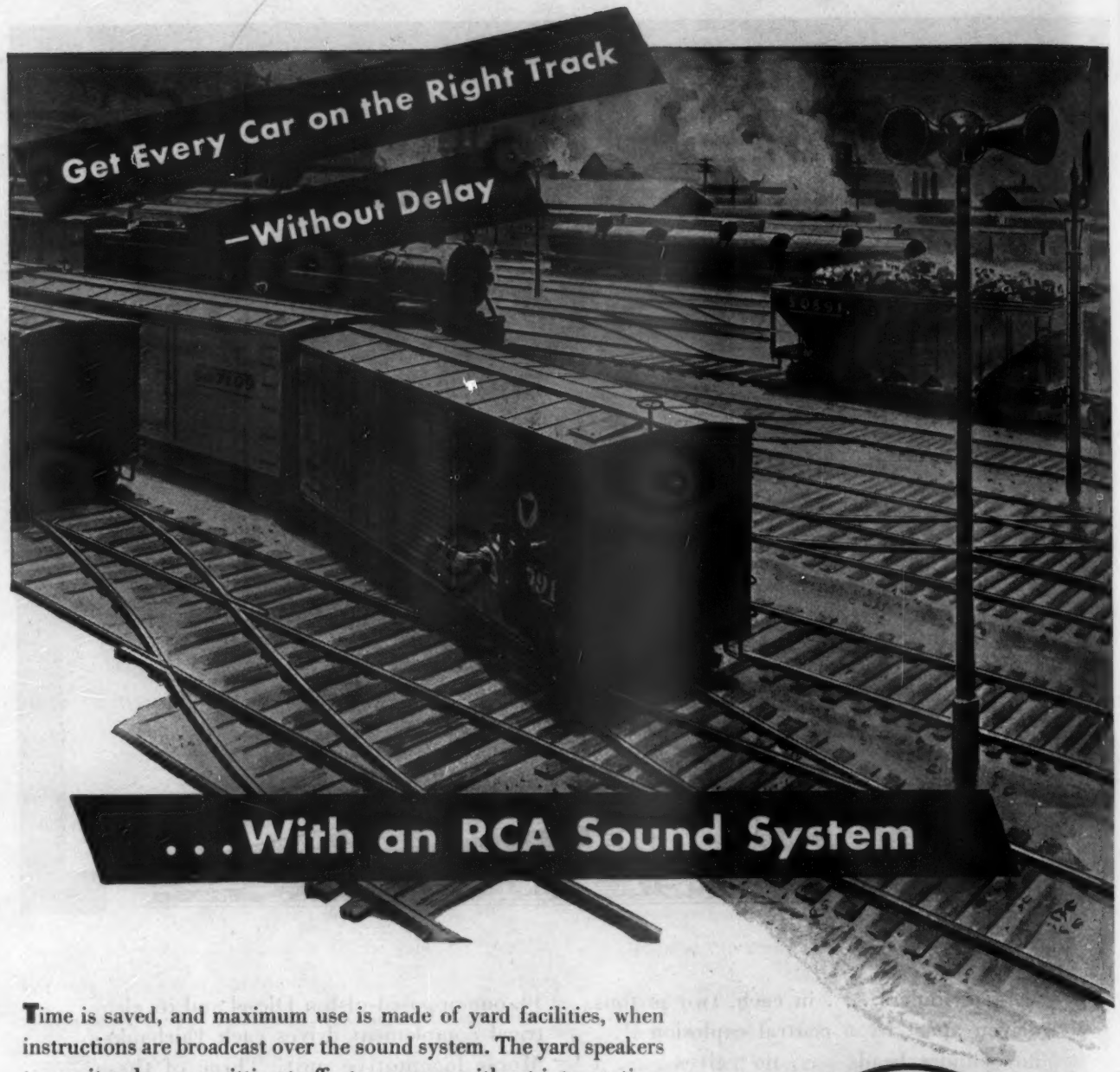
Packing the power of 20 cylinders into 10, one opposed-piston Diesel and its electrical complement drives each Fairbanks-Morse locomotive unit. Three of these units make a 6000-horsepower Fairbanks-Morse road locomotive.

Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

BUY MORE WAR BONDS

A name worth remembering!

FAIRBANKS-MORSE



Time is saved, and maximum use is made of yard facilities, when instructions are broadcast over the sound system. The yard speakers transmit orders, permitting traffic to progress without interruption.

An RCA Sound System in your freight yard puts your yardmaster in touch with every worker and every car. He can control all operations...give orders to switching crews...spot cars...announce arrivals to switchmen...page inspectors.

Your sound system will save time and motion; economize on fuel and man-hours; move freight faster; make deliveries on time.

There is an RCA sound system for your passenger station, too, for paging and making announcements, and for your home office to put all departments in instant communication.

Expedite with Sound! Call in an RCA representative to study your needs, or write, RADIO CORPORATION OF AMERICA, Sound Equipment Section, Box 70-84, Camden, New Jersey. In Canada, RCA VICTOR COMPANY LIMITED, Montreal.

RCA SOUND SYSTEMS

RCA

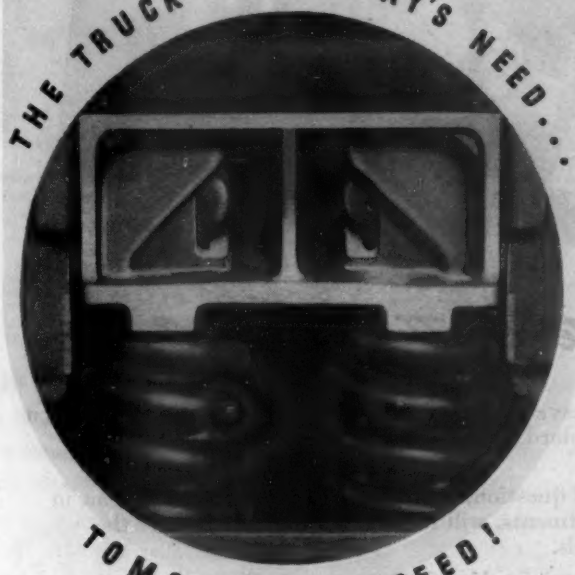
BUY MORE WAR BONDS

RADIO CORPORATION OF AMERICA

RCA Victor Division · Camden, N. J.

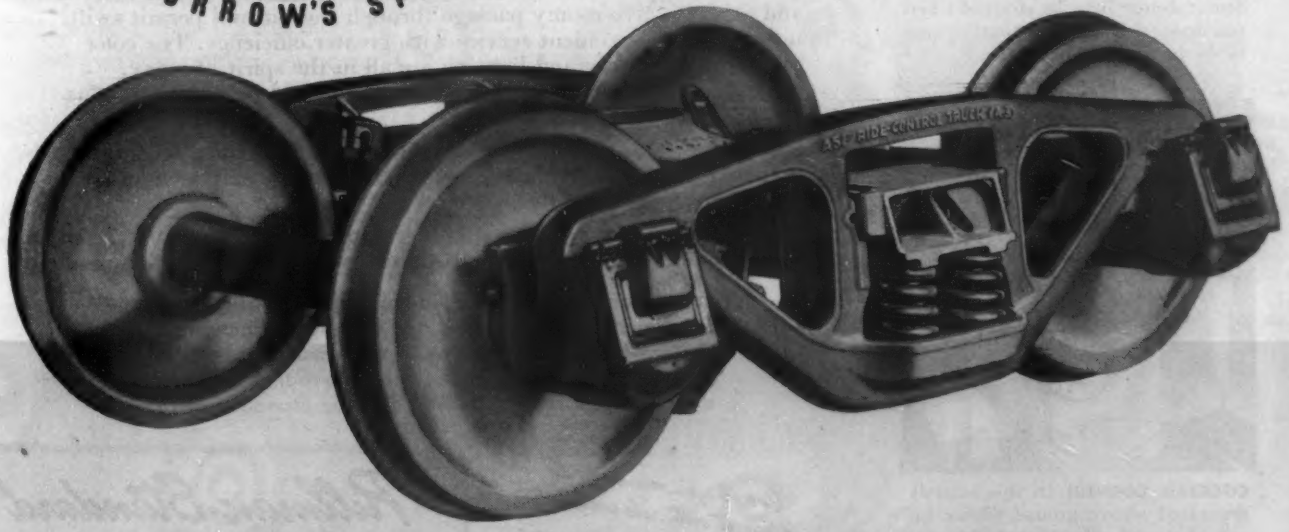
IT'S ALWAYS WISE TO STANDARDIZE . . .

Ride-Control for All Freight Cars !



American Steel Foundries recommends the Ride-Control Truck (A-3) for *all* freight cars, a recommendation that is based on more than four decades of experience in designing, developing, manufacturing, and selling freight-car trucks and parts. This truck is offered for use with coil springs of whatever travel best suits the various types of service for which freight cars are intended. Making it easier for the railroads that anticipate the future use of longer-travel springs, this truck can be arranged for use with shorter-travel springs initially. These can later be replaced by longer-travel springs if the cars are required for higher-speed service or if an A. A. R. standard spring having a still different travel should be developed.

NO SPRING PLATES • NO SPRING PLANKS



AMERICAN STEEL FOUNDRIES

CHICAGO

MINT—MARK OF FINE CAST STEEL

PATENT APPLIED FOR

A Taste of Things to Come

"WILL passengers have to *dress* for dinner?", one enthusiast asked on seeing Pullman-Standard's exciting designs for this railroad diner of the future.

No. But a natural question, perhaps. For this superb new car, in its decor and appointments, will rival the dining facilities of the finest clubs and hotels.

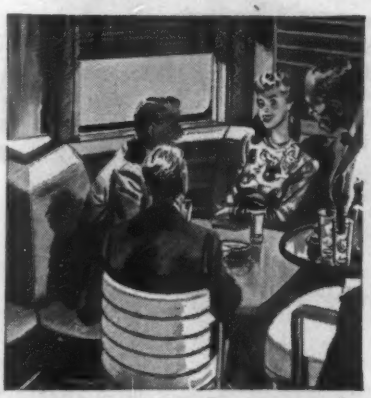
Novel arrangements of tables for one, two or four allow more comfort and privacy, give roomy passage through the car and permit swift, unobtrusive, convenient service with greater efficiency. The color schemes, upholstery and lighting are all in the spirit of a gay, unrationed tomorrow . . . no detail that will add to gracious dining has been overlooked.

In this pleasant atmosphere you will relax and enjoy delicious meals, prepared in immaculate kitchens, by chefs whose chief delight is to cater to particular palates.

As expertly engineered as it is ingeniously designed, this is the dining car of Tomorrow. This is the car sophisticated travelers will talk about.

In Pullman-Standard's exhibit rooms, forward-looking railroad men by the hundred are viewing the blueprints and designs for this and many other postwar cars of different types—designs ready to be turned into realities immediately materials are available. Yes, Pullman-Standard is ready!

TETE-A-TETE: Tea for two or a full course dinner may be enjoyed when you desire privacy. The novel shaped tables permit ease of service.



COCKTAIL CORNER: In this smartly decorated alcove groups gather for gay chat and refreshing appetizers. A pleasant and popular place in which to meet and entertain friends.

This Advertisement is appearing currently in some of the national magazines

★

Use it up...make it do
Wear it out...do without

BUY MORE WAR BONDS

★

Pullman-Standard

CAR MANUFACTURING COMPANY

CHICAGO • ILLINOIS

World's largest builders of modern streamlined railroad cars

© 1944—P. S. C. M. Co.

Offices in seven cities . . . Manufacturing plants in six cities

Bluefield yards of N. & W., showing catenary construction. Inset shows wear cross-section on PHONO-ELECTRIC after 5½ years' service, averaging 80 passes daily. Wear is so slight that records for longer periods were considered unnecessary.

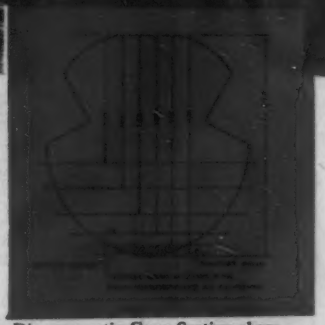
PHONO-ELECTRIC BRONZE CATENARY WIRE

in service since 1914 on N. & W.'s Elkhorn District line.

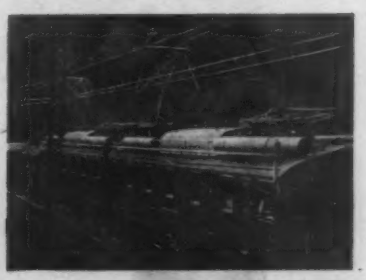
Millions of tons of bituminous coal are hauled yearly over that important section of the Norfolk and Western's main line, extending from Bluefield to Iaeger, West Virginia, on the summit of the Allegheny Mountains. Electrified thirty years ago, it includes grades ranging from .6% to .2% against tonnage, and over 208 track miles power-fed through Bridgeport's PHONO-ELECTRIC BRONZE contact wire.

N. & W.'s electrification, in war and in peace, has proved capable of maintaining a high level of road efficiency. And PHONO-ELECTRIC'S contribution to this record, its long weather-and-wear resistance, are recommended to the attention of planners for postwar electrification projects—or for necessary rehabilitation of existing lines.

Illustration of an electric locomotive handling a coal train on the heaviest grade.



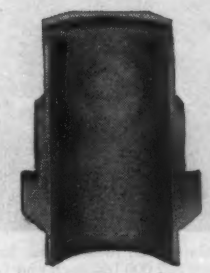
Diagrammatic Cross-Section showing wear at end of five years and nine months.



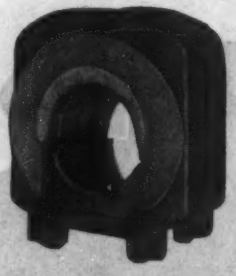
One of N&W's sixteen locomotives, four of which weighing 832,000 lbs. each and twelve weighing 604,400 lbs. each, and exerting a maximum tractive effort of 185,000 lbs. and 123,000 lbs. respectively. All are "split phase" type, designed for constant normal running speeds of 14 and 28 m.p.h.

PHONO-ELECTRIC Bronze

WAR *LOADS* ARE BEATING THE WAR *LORDS*



● *Magnus A.A.R. Journal Bearing, Freight and Passenger Type*



● *Satco-faced Locomotive Driving Box*

Riding on thousands of cars equipped with MAGNUS BEARINGS

The exceptional performance of Magnus Satco-Lined Bearings and Facings under the higher loadings and speeds necessitated by heavy war shipments, is causing their increased adoption on leading railways. Their superior service is due to Satco Metal's hardness, compressive strength, and greater resistance to deformation at above normal temperatures. Magnus Satco-Metal Bearings are available *now*— and future supply is assured.

MAGNUS METAL CORPORATION
CHICAGO NEW YORK

Just Announced!

REVOLUTIONARY NEW "PHILCO THIRTY" GIVES 30% LONGER LIFE!

Again . . . Philco Makes Engineering History

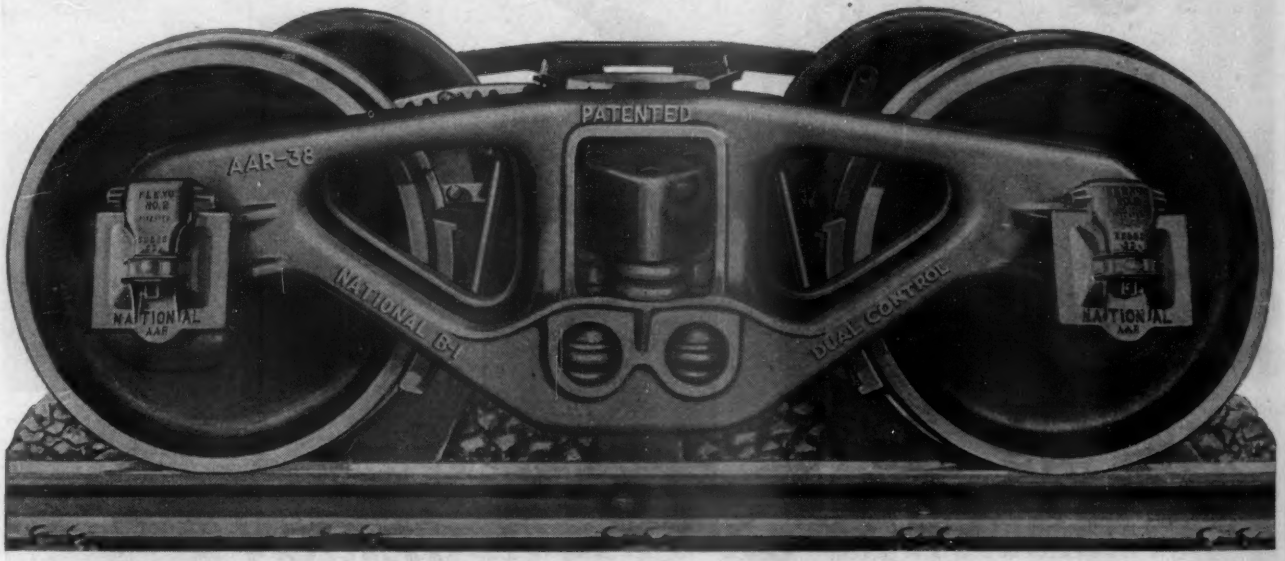
At last, a motive power battery with a revolutionary, new construction that actually gives you *30% longer life . . . and more!* A brand new principle of fabricated insulation . . . developed after years of research in the Philco laboratories, and now introduced after exhaustive tests in actual service. It's the *Philco "Thirty"* . . . your post-war battery, available now in certain types and limited quantities. Write today for full information.

PHILCO CORPORATION, *Storage Battery Division, Trenton 7, New Jersey*

FOR 40 YEARS A LEADER IN INDUSTRIAL STORAGE BATTERY DEVELOPMENT

Built in Controls make B-1 an Easier Riding Truck

National B-1 Trucks with Dual Control are protecting cars and lading throughout the United States and Canada. Built-in controls and safety features allow cars with B-1 Trucks to be speeded up with safety.



National B-1 Truck with Dual Control

"Spring bounce" controlled . . . Self squaring
Springs protected . . . Quickest Wheel Change
No Spring Plank . . . No Spring Plates required
Less number of parts . . . Lower Maintenance Cost

NATIONAL MALLEABLE AND STEEL CASTINGS CO.
General Offices: CLEVELAND, OHIO
Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Canadian Representatives: RAILWAY AND POWER ENGINEERING CORPORATION, LTD., *Toronto and Montreal*

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered in U. S. Patent Office.

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In This Issue

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

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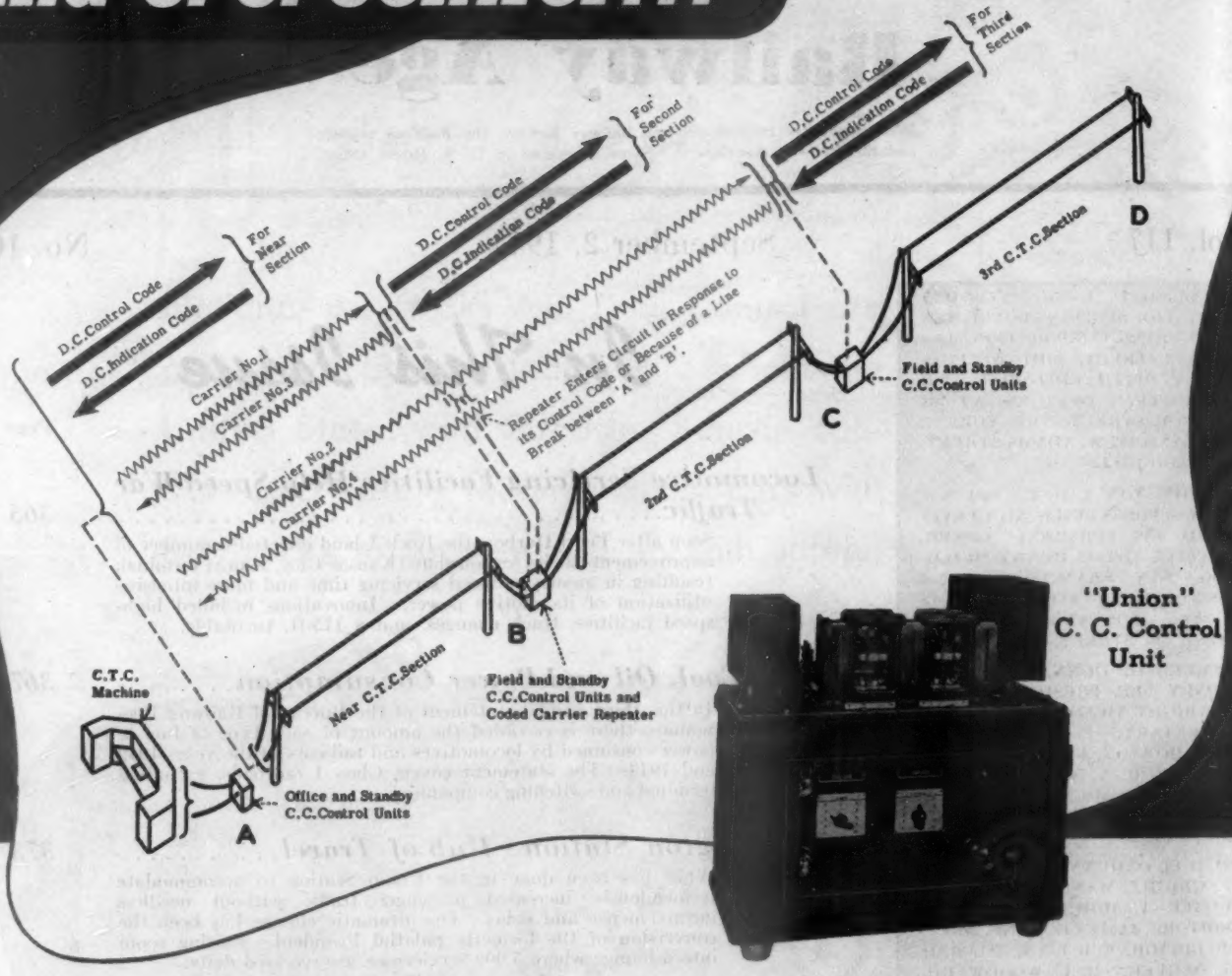
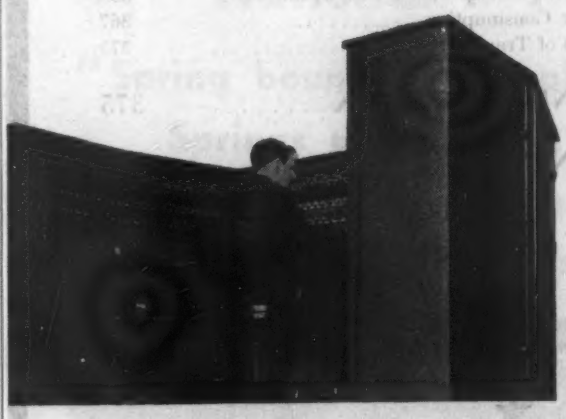
and C. C. Control...



...is only two years old!



PROBABLY no other engineering development in railway signal systems has gained the widespread adoption, functioned so perfectly and accomplished so much in such a short period of time as "Union" Coded Carrier Control.

This practical application of electronics has increased the scope of our Time Code Control Systems, removing the previous limitations as to length of C.T.C. territory and number of stations which can be controlled from one location over a two-wire multiple line circuit.

To date, 11 railroads have contracted for 32 C.T.C. sections with C.C. Control which will save over 3,500 miles of line wire. The timely introduction of C.C. Control two years ago materially assisted the railroads in their efforts to obtain the advantages of Centralized Traffic Control without waiting until critical materials became more plentiful. Have you investigated its possibilities?

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PA.

3146

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

The Week at a Glance

PERFIDY: One of the principal objectives in the Justice Department's anti-railroad suit is the dissolution of the A.A.R. The leading editorial herein cites documentary evidence indicating that the railroads formed this "more perfect union" and undertook the functions the Justice Department now condemns, with the full approval of Co-ordinator Eastman, acting under powers conferred upon him by New Deal legislation. Moreover, President Roosevelt was fully informed about what was going on and approved it at the time. If this form of association is illegal now, it was just as illegal when initiated with the approval (and, indeed, in obedience to the wishes of) the New Deal Administration. The episode is reminiscent of the Nazi father who persuaded his small son to jump from the roof of a building, promising to catch him. When the youngster jumped, wasn't caught, and sustained a broken leg, his father said: "That was to teach you never to trust a Nazi even if he is your own father."

●

RAILROADS TOO MODEST?: A reasonable opportunity for the railroads to thrive depends upon the provision of a political frame-work under which they will not be unduly disadvantaged in comparison to other types of transportation in their bid for traffic. Such a favorable political frame-work, in turn, cannot expect to arise except from a public opinion which is informed with reasonable accuracy as to the relative public importance of the several agencies of transportation—and is on its guard against the piling of obstacles to health on any necessary form of transportation. An editorial herein suggests that the public is not now being given adequate or accurate information, upon which to build a public policy likely to permit vigor or health to the railroads. Educational "copy" for railroad advertising might profitably be expanded to reveal to the public some inkling of the importance of the railroads to America in peacetime. Other transport interests are not being bashful in putting forward their claims to public favor—and the resultant public concept is likely to be lopsided, with the railroads holding the short end.

●

EFFICIENCY AT ARMOURDALE: The Rock Island has found out by experience what a modern locomotive terminal will do for it in accelerating the turning and servicing of its motive power. The road completed the rejuvenation of its motive power facilities at Armourdale shortly after Pearl Harbor, and an illustrated article in this issue tells what this installation has since been called upon to do, and has done. The quicker handling at this one terminal is estimated to be equivalent in motive power effectiveness to the addition of 10 locomotives to the road's supply.

●

WASHINGTON TERMINAL: Some figures on the huge increase in business through the passenger station at the nation's capital are given in an article in this issue, with measures adopted by the management satisfactorily to deal with such unwonted throngs of customers. From 140 to 175 thousand people move through the station daily, and ticket sales are 400 thousand a month. Baggage checking has increased over 250 per cent and parcel-room transactions over 300 per cent. There were 31 ticket sellers, 26 information clerks, and 17 reservation clerks in 1941. Now there are 140 ticket sellers, 124 information clerks, and 174 reservation clerks.

●

LETTERS FROM READERS: Some noteworthy communications—mostly in comment on recent *Railway Age* articles and editorials—will be found on page 375 in this issue. The president of the New England Council takes exception to our recent observation regarding the hospitality of business people in that section to further expansion of socialized transportation. Alvin Vogtle of Birmingham, well-known shipper spokesman, agrees with the author of a recent article that the carriers are laggard to their disadvantage in reasonable effort to cultivate the understanding goodwill of the social scientists. A college man with experience in both railroading and industry sets forth conclusions which should be disturbing to those concerned with maintaining the quality of railroad leadership, in comparison with that of industry. A railroader reader wonders why the carriers don't tell more of their story to the public—instead of letting the long-haul truckers get away with their tall tales of inflated accounts of their relative importance.

●

HOW "WRINGER" WORKS: The I. C. C. has made public a tabulation of reorganization progress on some 30 carriers which have been operating under the Bankruptcy Law's Section 77. Debt of these roads—over $4 billion before—has been pared down to about $1¾ billion under the I. C. C. plans; and fixed charges have been pulled down from $144 million to some $40 million. Somebody has lost a lot of money, at a time when other components of the economic mechanism are prospering far beyond anything which history records. It remains to be seen whether private investment in transportation will retain its enthusiasm for its nationally-vital responsibilities under such punishment—however highminded the motives of the Torquemadas may be.

●

STALLED IN "HIGH GEAR": The House Committee on Interstate Commerce has decided not to resume hearings at present on the proposed "Railroad Social Insurance Act," H. R. 4805, despite the fact that the paper "Labor" had announced that the railway labor organizations were conducting a "high gear" drive to push this bill through. The unions' journal is displeased at the efforts of some railroads to reveal to their employees questionable characteristics of the proposed legislation, suggesting that it might not be quite so beneficial to employees as might be thought by those whose only source of information is the unions' paper.

CARE OF MOTIVE POWER: The railroads have been easily persuaded, in order to get the maximum of service out of their Diesel power, that special facilities were needed to maintain it—an organization trained to work to close tolerances, the adoption of the principle of parts-replacement, a complete and continuous maintenance record for each unit of equipment, a clean and well-lighted shop, and a morale pitched to the unremitting attainment of high maintenance standards. An editorial in this issue suggests that a similar approach would give equally satisfactory results in the maintenance of steam locomotives.

●

PAY FOR NO WORK: One of the relatively few cases of painfully large Adjustment Board awards regarding which the carriers have shown fight, has now been closed—with the brothers, as usual, walking away with a lot of money. The case arose from the use of road crews, rather than yard crews, to move empty passenger equipment between yards and the passenger station at Washington, D. C., and the "back pay" involved (according to an exultant report in the paper "Labor") totaled about $500,000. Heretofore there has been a disposition in some quarters to criticize carriers which have paid such awards without an effort to contest them in the courts—but experience now seems to indicate after the prolonged litigation in this case that, the statutes being worded and the bench being constituted as at present, that hope for remedy in this direction is slight. Wage payments under such conditions have lost their time-honored characteristic as a mutually-profitable voluntary transaction on the part of both employer and employee; and have become, rather, a form of tribute which one party is permitted (legally, it would seem) to exact from the other for something the victimized party doesn't want to buy.

●

WARNING ON PIPELINES: The pipelines subcommittee of the A.A.R.'s Committee for the Study of Transportation has reported its disquieting conclusion that there may well be economic justification—as conditions stood at the war's beginning—for the construction of additional pipelines for the movement of refined petroleum products which would deprive the railroads of $75 millions in annual revenues. The subcommittee doesn't feel that the railroads would be well advised to go in for pipeline operation so long as most of such lines are owned by the petroleum companies.

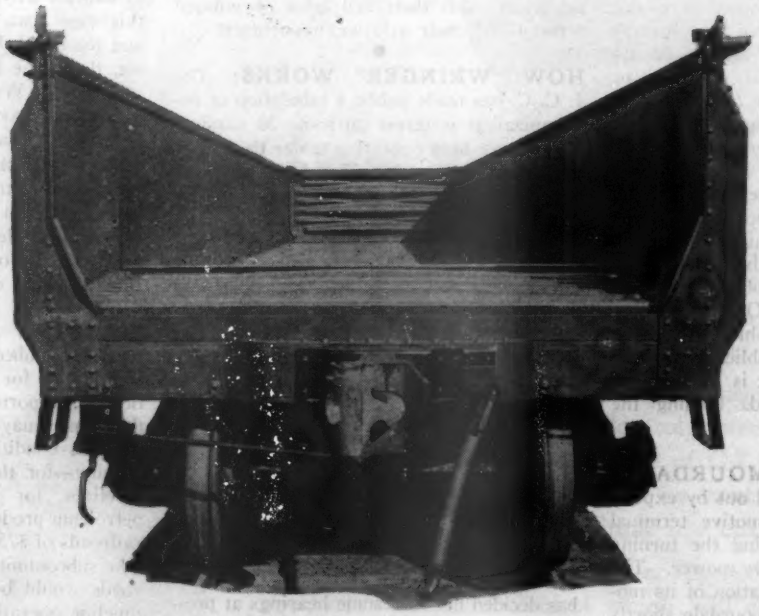
●

EX-BARGE GRAIN RATES: An I.C.C. examiner has reported on the ex-barge grain rates—upholding of which by the I.C.C. and the Supreme Court a year ago at higher levels than ex-rail rates touched off an explosion of demagogic anti-railroad oratory. The examiner believes the ex-barge rates should be higher than all-rail rates, but lower than railroad local rates. His analysis of this knotty case is set forth in the news pages.

DREADNAUGHT DROP END GATE

STRONG — *ABSORBS SHIFTING LOAD SHOCKS —STRENGTH IS UNIFORM—*

RUGGED — *WILL STAND ABUSE IN LOWERED POSITION*



STANDARD RAILWAY EQUIPMENT MFG. COMPANY

HAMMOND, INDIANA

WORKS: HAMMOND, INDIANA — NEW KENSINGTON, PA.

CHICAGO OFFICE — 310 S. MICHIGAN AVE.

RAILWAY AGE

"An Act of Perfidy and Treachery"

The proceeding charging violation of the anti-trust act recently started by the Department of Justice against the Association of American Railroads, the Western Association of Railway Executives, 47 western railroads and numerous individuals is an attack on the railways by the Biddle-Berge branch of the administration for having adopted policies that not only the Interstate Commerce Commission, but *the Roosevelt administration itself* urged them to adopt. It is an act of perfidy and treachery showing that no reliance can be placed on assurances given tacitly, or even expressly, to any business or industry by this administration. And it has a solely political purpose the effectuation of which could do only harm to everybody affected.

The story, summarized as briefly as practicable, is as follows: Because of extreme decline in their earnings, principally due to the depression, the nation's railways in 1931 appealed to the Commission for a 15 per cent advance in freight rates. In reviewing in its annual report for 1931 its denial of the advance, the Commission said: "The rates often open a door to effective competition *which might well be closed*. . . . The railways can with advantage pursue a policy of *greater cooperation*. . . . The waste in revenues and expenses resulting from *undue and unwise competition of the railroads with each other* we believe to be of very large proportions."

In response to this plain urging by the government body having power to regulate both their service and rates, the railways began considering measures to restrain competition; and in December, 1931, the western lines adopted and *publicly announced* the so-called "commissioner agreement" which was in effect eleven years without objection from any government authority, but which twelve years later the Department of Justice has now attacked, although it was abrogated by the railways over a year ago.

Soon after the Roosevelt administration came to power in 1933 it secured passage, as part of its "recovery" legislation, of an act creating a "federal co-ordinator of transportation," to which office President Roosevelt appointed Joseph B. Eastman, a member of the Interstate Commerce Commission. In his report as co-ordinator to President Roosevelt in January, 1934, Mr. Eastman said: "It is not too much to hope that *the railroads may be able to 'form a more perfect union'* to deal with matters of common concern such as . . . new types of equipment, new forms of service, the unification of terminal operations and *readjustment of the rate structure.*"

Eight months later (September 29, 1934) *Railway Age* published an article by its Washington editor giving in full the "articles of organization" of the new Association of American Railroads, and saying: "One object of the plan is to *carry out suggestions made by Co-ordinator Eastman* . . . that the railroads 'form a more perfect union,' and *it had been discussed beforehand both with the President and Mr. Eastman,* who (Eastman) issued a statement referring to it as a 'gratifying step in the right direction.'" The following from the articles of organization as then published show plainly the Association's purpose and the method to be used in accomplishing it: "It is hereby declared to be the policy of the Association that *all* controversies between members . . . should be settled by arbitration, and the

Efficiency FOR VICTORY

members agreed that, in any controversy . . . which the Board of Directors has . . . decided by the affirmative vote of three-fourths or more of its members, they will accept and carry out such decision, or, within twenty days, institute arbitration proceedings as hereinafter provided."

Only the courts can decide whether these and other similar measures adopted by the railways have been in violation of the anti-trust act. But if they have been illegal since, they were illegal eleven years ago when the Interstate Commerce Commission, the President's co-ordinator of transportation, and President Roosevelt himself encouraged and approved their adoption. What kind of government have we developed, when one branch of it attacks citizens in the courts, alleging wholesale violations of law, because they have done what two other branches of the government and the President himself only a few years ago encouraged them to do in the supposed interest of the nation?

When Will the Railroads Begin to Fight?

Plans and programs are far advanced for the post-war expansion, through the multiplication of existing political favoritism, of all major forms of transportation except the railroads. By unremitting repetition in advertising, as admirable in technique as it is contemptible in its disregard for truth, the long-haul trucking industry is imparting an exaggerated picture of its relative economic importance and winning converts to the "truck barrier" myth. It is even convincing people that, no matter how heavy trucks are, not they, but the weather, is guilty of damage to highway surfaces. By similar means government and private sources are "conditioning" the public to accept vast socialistic post-war expansion of federally-supported super-highways, airports, T.V.A.-type river improvements, and a gigantic coastwise merchant marine.

The railroads, thanks largely to the foresight and leadership of Judge R. V. Fletcher, are studying their properties and operations, and seeking to plan intelligently for the future on a scale far more comprehensive than anything they have attempted in the past. Such planning, however, is directed to the improvement of their internal efficiency. Other types of transportation are doing similar research for their own internal improvement (or having it done for them at the taxpayers' expense)—and, *in addition,* are planning to magnify the external aids which they receive from government. The railroads are doing nothing to secure offsetting governmental favors for themselves and too little to give to the public information tending to cause it to condemn lopsided expansion of transportation in response to political rather than economic demand.

The future well-being of the railroads requires a government policy which will neither favor nor handicap one agency of transportation as compared with others —which will recognize that the national interest demands the development of all agencies under equality of governmental treatment. This being the primary requirement for the economic health of transportation, education of the public as to the unfairness and certain harm to the public interest of governmental favoritism for some means of transportation as compared with others would appear to be a natural and necessary theme for railroad publicity and advertising.

Instead, most railroad publicity and public relations advertising, insofar as it is not defensive, continues to concentrate on the splendid war job the railroads have done, and to suggest that railroad service will be better than ever after peace comes. No doubt this tends to give the public a good opinion of the railroads; but there is no evidence that it tends to make the public more disposed to provide an equitable political framework within which the railroads might expect to prosper.

Meantime, the public is being deluged with political activity and propaganda in behalf of special favors for this group or that. In the August 26 issue of *Railway Age* alone there were reported the following developments in a direction *opposite* to a uniform and equitable government policy toward transportation as a whole:

A resolution by Congressman Randolph of West Virginia to establish a joint commission on national policy regarding air transport; bills introduced by Senators Murray of Montana and Gillette of Iowa for developing navigation at federal expense on the Missouri river as has been done in the T.V.A. area; a Senate bill to appropriate almost $2 billion of post-war "federal aid" for highways, including an "inter-regional system" of super-highways; a report by an I. C. C. examiner favoring denial to the railroads of opportunity to make rates that would enable them to compete with coast-wise vessels; and the filing of the "anti-trust" complaint against the railroads, which alleges, among other things, that the railroads have achieved political advantages over long-haul truck operators. And, of course, the effective repetition of the "truck barrier" myth, and of misleading statistics on the magnitude and necessity of long-haul trucking, continue unabated, as does the manifold propaganda of the resourceful automotive interests for the proliferation of post-war super-highways, and the scarcely less extensive machinations of other interests for similar gigantic political favors for aviation and inland waterways.

There is only one way for the railways effectively to deal with such developments and propaganda. This is to go to the public with publicity and advertising refuting the claims of their competitors, demonstrating the superior military and economic importance of the railroads, and showing the tendency of government aid to other carriers to make it difficult or impossible for the railroads to render the service and make the rates that the public welfare requires. The pussyfooting policy to which the railways have been adhering has invited attacks upon them which have now become so numerous that they are seriously threatening the railways' post-war prospects.

What's Good for One Is Good for the Other

The number of Diesel-electric locomotives in freight, passenger and switching service in the United States—now totaling around 2,200—has thrust upon the railroads the necessity of adopting a new technique in the maintenance of motive power. Very few people realize the extent of the organization required to do this job on the 70 to 75 railroads using this type of power. In setting up the facilities and training the men the railroads were obliged to start from scratch, in a field new to them, and to rely to a great extent on the service departments of manufacturers of equipment to guide them in their plans. What has been done in this respect in the short space of three years is so comprehensive in scope that it may be looked upon as an example of accelerated research in motive power maintenance for, except for wartime conditions and the attendant high volume of traffic, the railroads would probably not have had the opportunity in much less than from five to ten years to gather the experience we now have.

It is but natural that, in approaching the question of facilities and organization for Diesel-electric locomotive maintenance, there should be divisions of thought and opinion. The railroad man, except for a relatively small group concerned with electric locomotives, had only the background of steam experience to influence his thinking. The manufacturers, on the other hand, having had the experience of the development period of Diesel power, knew that the new type of power could not be maintained in the same manner as steam without eventually getting into some trouble. With this in mind they have proceeded on the premise that Diesel locomotive maintenance is something entirely foreign to that of steam and that the two problems, and all that is related to them, should be kept separate. This type of thinking on the part of both the railroad men and the manufacturers has led to some rather distorted ideas and has served to exaggerate the complexity of a railroad problem that, in the final analysis, is not only simple but is less complicated than that of steam locomotive maintenance.

There are now projects involving millions of dollars under way on several railroads for facilities to be used for Diesel maintenance. While these facilities are being made ready for use it might be well for mechanical officers to pause long enough to analyze, very carefully, the reasons why these new facilities for Diesel locomotives are being built. It is because it has been agreed that existing steam facilities are not adequate or are not suited to the maintenance of Diesel power. Without going too much into detail it might be well to take cognizance of the fact that the major points of difference seem to be a specially trained organization accustomed to working to close tolerances; the adoption of the principle of parts-replacement; a detailed, complete and continuous record of maintenance for each individual locomotive unit; a shop or terminal workplace that is well lighted; a shop space that is clean and can be kept free from dust and dirt and, above all, the desire to do a high-caliber maintenance job.

For many years those who have carried on a continuous campaign for better locomotive maintenance have recognized the need for just those basic things that the roads now feel they must have for a *new* type of motive power. Actually, except for the internal combustion engine, there is nothing on a Diesel-electric locomotive that some roads have not had to maintain for years.

If the above enumerated principles of locomotive maintenance are the things that are needed to be successful in Diesel maintenance, it might be well worth while to ask why they are not just as necessary in the maintenance of steam power.

Sabotage — if Anybody Else Had Done It

Fire-Resistant Wood

The construction and maintenance forces of the railways are learning many things as a result of their war experiences. Beyond this, they are learning and will continue to benefit from experiences of the Army, Navy and other agencies entirely outside the railway field.

A development in this latter category is the fire-resistant treatment of wood for structural purposes, which has been greatly expanded technologically and in practical application during the last two or three years. Today water solutions of ammonium phosphate, ammonium sulphate, zinc chloride or chromated zinc chloride, boric acid and borax, alone or in combination, are being employed effectively to reduce the combustibility of wood; and millions of board feet of both lumber and timber treated with these materials have been employed by the Army, the Navy and the Maritime commission to minimize the hazard of fire in their structures. Will the railways take advantage of this development and experience to afford added protection to their newer timber structures as built, many of which are certain to be more permanent and valuable, at least as operating facilities, than those built strictly for war purposes?

As one of the largest single users of timber products in the country in normal times, the railways have not been unmindful of the importance and economy of protecting these products against decay. In fact, it was the railway industry that gave the wood preserving industry its impetus in this country, and which has normally taken a large percentage of its production, especially in the form of treated crossties and timbers to be applied under severe ground and atmospheric conditions. Their acceptance of salt-treated timber for use in building superstructures as a precaution against decay and termite attacks has been far less general, even for such building parts as roofs, floors and platforms where decay is most prevalent, and unmistakably a limiting factor in the life of the material, although there have been definite indications during recent years that this situation is changing. Several roads have employed salt-treated wood for enginehouse roofs, where decay due to condensation presents an especially acute problem. There has been increasing use of salt-treated wood for floors and exposed platforms, especially where other treatment was objectionable. And not a few roads are beginning to use this material above ground in piers, warehouses, freight houses and passenger stations.

As this employment of salt-treated wood expands to guard against termites and decay, recent costly fires in passenger stations, enginehouses and tunnels suggest strongly that equal attention be given to protecting against fire the new wood that may be employed in these structures, a suggestion that takes on increased importance in these days of increasing scarcity of building materials, the greater value of equipment and lading that may be housed, and the all-important necessity of avoiding interference with the continuity of railway operations. That the treatment to incorporate fire-resistant qualities in wood can be combined and administered simultaneously with any of the salt treatments designed to protect it against termite attack and decay, and at relatively small added expense, should be added incentive to adoption of this practice.

Careless Smoking

The editorial comment on Preventing Fires in the *Railway Age* of August 5, concluded with the statement that "poor housekeeping has been responsible, directly and indirectly, for more fires than any other single cause." A reader, while in full agreement with this truth, suggests that it is only part of the story. Waste material and rubbish do not ignite themselves and too frequently ignition is caused by a carelessly discarded cigarette or lighted match. He suggests that while poor housekeeping is a basic factor, the real offender is the careless individual and the cause, properly stated, is *careless smoking.*

Literally millions of dollars of valuable war materials have been destroyed because smokers have discarded cigarettes and matches before thoroughly extinguishing all traces of fire. In normal times, even when the exigencies are not so great, the losses in the aggregate, due to this cause, are stupendous. The New York City Administrative Code assigns a definite penalty for smoking in prohibited locations and occupancies and the offenders are fined or receive jail sentences. Other communities could well afford to adopt similar measures and railroad men, generally, should do everything they can to awaken the public to the danger of carelessness on the part of smokers, women as well as men.

Toward Further Transport Socialization

"The government should establish annual construction goals. . . . We must develop a major works program. . . ." *O. P. A. Chief Bowles in an August 28 speech at Seattle.*

Manhattan (N. Y. C.) Borough President Nathan has announced his readiness to let contracts "on two weeks' notice" for $122,000,000 of construction projects—mostly toll-free arterial highways.

W. Va. Congressman Randolph has urged early enactment of legislation calling for a federal appropriation of $1.5 billion for highway construction (not to be matched by a compensatory increase in federal levies on highway use). Mr. Randolph says the legislation would provide "returning members of our armed services and discharged war plant workers the job insurance they have earned." The Congressman seemingly has little faith in the ability or willingness of private business enterprise to embark on undertakings of sufficient magnitude to employ the available working force and, hence, favors the activation of investment by federal coercion.

The National Association of Manufacturers has issued in pamphlet form the "Second Report of the Postwar Committee" in which great zeal is manifest for the removal of government from the realm of manufacturing, but not from transportation. Instead, the committee views with enthusiasm proposals for increased public expenditures for highways and air transport facilities, and supports the "trade barrier" myth with respect to limitations on the weight and size of trucks. It has little or no constructive thoughts to offer regarding the prospects for or the urgency of further development in the non-socialized segments of the transportation industry.

General View of New Facilities for Delivering Fuel Oil, Water and Sand with One Spotting of a Locomotive

Locomotive Servicing Facilities Help Speed War Traffic

Improvements on the Rock Island at Kansas City terminal have expedited handling of power at this important point

SHORTLY after Pearl Harbor, the Chicago, Rock Island & Pacific completed a number of improvements at its Armourdale (Kansas City), Kan., terminal which have shortened greatly the time required to service locomotives at this point—one of the most important engine terminals on the system. These improvements have been a major factor in helping this road utilize its locomotives more intensively and handle an increase of more than 130 per cent in traffic through this terminal during the last four years with an increase of only 65 per cent in the number of locomotives.

Briefly, the improvements consist of the construction of new high-speed fuel oil, water and sanding facilities for oil-burning locomotives; some track changes to reduce the time required in getting locomotives to and from the enginehouse and to eliminate congestion; and the installation of a 115-ft. turntable, which also saves time in turning locomotives. Because of the greatly reduced time now required both to service and to handle locomotives at this terminal, these improvements are estimated, with the present volume of traffic to be approximately equivalent to putting 10 additional locomotives in service.

The mechanical department at Armourdale handles running repairs, servicing and major repairs. About 85 locomotives are serviced each day, approximately 60 per cent of which are oil-burning locomotives operating on the lines west of Armourdale, while the remainder are coal-burning locomotives operating east of Armourdale.

The terminal at Armourdale consists of an enginehouse with 36 active stalls, a 115-ft. turntable, machine shop, storehouse, blacksmith shop, car repair shop, wheel shop, etc. The main tracks run east and west and are located along the north side of the yards. The enginehouse, machine shop and servicing facilities are located south of the yards. The eastbound receiving yard is located north of the enginehouse and the westbound receiving yard just east of the eastbound receiving yard so that both eastbound and westbound incoming engines are cut off a short distance northeast of the enginehouse.

Formerly, both eastbound and westbound engines had to travel about ¾ mi. westward to a crossover at 18th st. and then eastward nearly as far on the lead tracks which entered the enginehouse from the west. All servicing facilities were located along these tracks. Coal-burning engines were required to make two spots, one for coal and sand and another for water, while oil-burning engines were required to make three, one each for fuel oil, water and sand.

With the old arrangement, all locomotives came in and went out via 18th st. This required much time, both because of the distance involved and because of the location and character of the facilities. Locomotives

One of the Large Road Locomotives on the 115-Ft. Turntable

often took an hour to get into the enginehouse and outbound locomotives required nearly as much time. The situation was complicated further by congestion caused by locomotives waiting for others to be serviced. This situation was so bad that occasionally as many as 10 to 15 locomotives would be waiting their turn.

Formerly, two tracks also provided access to the enginehouse from the east. These tracks had no servicing facilities other than one 10-in. water crane which was supplied by a 12-in. water line 1,400 ft. long. Few locomotives used this route because it took about 14 min. to take a full tank of water and there were no fuel or sanding facilities.

New Improvements

Briefly, the new improvements consist of the relocation of the two easterly enginehouse lead tracks, the addition of a third lead track, and the installation of two sets of modern high-speed water, fuel oil and sanding facilities, serving all three tracks. Washing facilities were also installed. These tracks were connected to the yard leads and runaround tracks at a point convenient for both incoming and outbound coal and oil-burning locomotives, which eliminated nearly all unnecessary movements to and from the enginehouse. In addition, the new facilities were arranged in such a manner as to eliminate congestion and delays for locomotives awaiting servicing. Some track changes were also made west of the enginehouse for the coal-burning locomotives, which eliminated the excess movement formerly required for incoming coal-burning locomotives. With the new arrangement, all coal-burning locomotives enter the enginehouse from the west and all oil-burning locomotives from the east. All outgoing locomotives of both types go out to the east.

With these facilities, a locomotive can take a full tank of water in about 3½ min., as compared to 14 min. before. Fuel oil can be taken in about 4 to 4½ min., as compared to 8 to 10 min. before. In addition, fuel oil, water and sand can be taken simultaneously with one spot on each of the three tracks. The arrangement and organization are such that all congestion and interference are practically eliminated.

The three easterly enginehouse lead tracks are spaced on 19-ft. 3 in. centers. For convenience in referring to them, the tracks are numbered 1, 2 and 3; No. 1 being the northerly track and No. 3 the southerly track. Between No. 1 and No. 2 tracks and spaced 20 ft. apart, are located a water crane, a fuel oil crane and a sanding tower, so that locomotives backing in on No. 1 or heading out on No. 2 track can be serviced with one spot. In the reverse order, similar servicing facilities are installed between tracks 2 and 3, with water cranes located opposite each other, so locomotives backing out on either track 2 or 3 can take oil, water and sand from these facilities with only one spot. Thus only one spot is required for servicing locomotives backing in or heading out on track 1, or for those backing out or heading in on track 3, and locomotives headed in either direction can be handled with one spot on track 2. With this arrangement, oil-burning locomotives are usually backed in on track 1 and backed out on track 3, keeping track 2 open as much as possible. Outgoing coal-burning locomotives head out on track 2. This convenient and efficient arrangement, together with the high speed or capacity of the units, has eliminated practically all congestion among locomotives awaiting servicing. In addition to these facilities, a cleaning rack equipped on each side with platforms, four floodlights and a high-pressure hot water hose for washing, greasing and inspecting the incoming oil-burning locomotives was installed on track 1 just west of the other servicing facilities.

Fuel Oil Facilities

Probably the most unique facilities installed are the new 8-in. fuel oil cranes and the fuel oil station which supplies them. The locomotive fuel oil used on this road is a heavy, black distillate residue, technically known as Bunker "C". At normal temperatures it is very thick and gummy and to handle it successfully, it must be heated in summer, as well as in winter. It is supplied by regular shipments in special tank cars equipped with internal steam radiators. These are connected to steam lines at the unloading point by means of Barco flexible couplings so that the oil can be heated and unloaded into four unloading boxes about 3 ft. by 8 ft. in area, set inside stringer boxes built under a 512-ft. oil unloading track constructed just north of track 1.

The unloading boxes are connected by eight-inch pipe lines to two 20,000-gal. buried fuel oil storage tanks. These storage tanks are also equipped with internal steam radiators with coils of two-inch extra-heavy pipe 20-ft. long.

Steam is secured from a 3-in. high-pressure line at the enginehouse, through 2½-in. and 2-in. high-pressure steam lines which also supply a hot water heater for the washing racks and the steam line for heating the oil in the tank cars. The oil storage tanks are buried in the ground and are held down by second-hand rails

driven into the ground on each side with a piece welded across the top. The tanks are also welded to the rails to prevent settling.

To prevent corrosion, the tanks were given two coats of heavy asphalt paint and selected backfill was used to replace the cinder fill. The oil in the storage tanks is kept automatically at a temperature of approximately 130 deg. F. by means of a Minneapolis-Honeywell thermostat and steam pressure regulator.

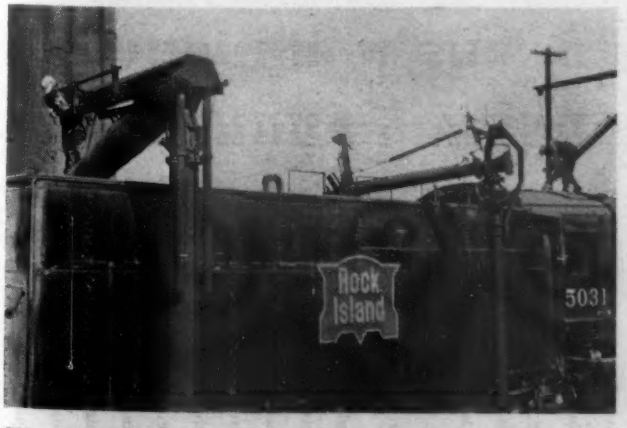
The fuel oil cranes are connected to the storage tanks by eight-inch pipe lines with Dresser couplings and are supplied by all-weather 600-gal.-per-min. vertical electric turbine fuel oil pumps. The pump motors are mounted in pits over the storage tanks and the shafts and pumps extend into the tanks.

Oil and Water Cranes

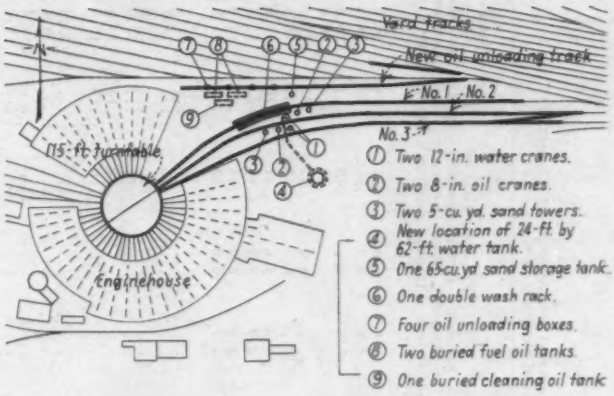
The eight-inch fuel oil cranes are of a special design with a telescopic spout and have a delivery capacity of more than 1,200 gal. per min. with a gravity flow. These cranes have three movements and an extremely long range of telescopic action with a 9-ft. minimum radius and 6-ft. traverse. They can be used for servicing all types of locomotives at this terminal. They have a mercury position switch which automatically turns on a flood light when the spout is moved into delivery position and the flood light hood has a red lens on each side to warn approaching enginemen or hostlers at night if the spout is across the track. Flow is controlled by a hand-operated wheel valve on the end of the spout and by a switch which starts the turbine pump. To prevent oil from congealing in the spout, which would make it hard to handle in winter, the spout and column are steam-heated by a ¼-in. steam pipe enclosed in a 1-in. heating pipe. The heating units for the spout and column are thermostatically controlled to operate when the outside temperature is below 20 deg. F.

The fuel oil cranes are mounted in covered reinforced concrete pits 5 ft. square and 4 ft. 1 in. deep. Although of special design, these cranes were constructed with more or less standard fittings and machine parts.

Each of the two 12-in. water cranes delivers from 6,000 to 7,000 gal. per min. and will fill a 20,000-gal. water tank in 3 to 3½ minutes. They have large, hydraulically-balanced spouts which prevent bucking, although the flow is much above average, enabling one man to handle the spout while the other attendant is taking fuel oil or sand. To deliver water to the cranes in sufficient volume, it was necessary to move a 24-ft.



Close-Up of Locomotive Taking Water and Sand Simultaneously—Oil Crane Is Also in Delivery Position



Showing the Location of New Servicing Facilities and Tracks East of the Enginehouse

by 62-ft. steel water tank to a point about 100-ft. from the water cranes and lay a 12-in. supply line from the tank to the cranes. The design originally called for a 16-in. supply line, but pipe of this size could not be secured at the time the work was being done.

The water tank was one of two such tanks located near the treating plant, west of the enginehouse and it was moved approximately 950 ft. around the south side of the enginehouse to its new location. The old 12-in. water line to the former 10-in. water crane east of the enginehouse now serves as a connection to equalize the two tanks. The new water lines are of Johns-Manville transite pipe, except under tracks, where cast iron is used.

The sanding facilities are used to supply both the sand domes of the coal and oil-burning steam locomotives and the deck boxes on the oil-burning locomotives, these deck boxes being used to supply sand for cleaning the flues. These sanding facilities consist of two 5-cu. yd. steel sand towers, supported on steel columns and mounted on a reinforced concrete foundation. Each

(*Continued on page 375*)

Unit Coal, Oil and Power Consumption

FOR the third year the Bureau of Railway Economics has published an annual statement of unit fuel and power consumption by locomotives and rail cars of the various types of fuel or power consumed. This statement, which covers the Class I railways individually, records the amount of each of the various types of fuel or power consumed per unit of service stated directly in the units in which it was purchased. While coal continues to be the predominant fuel in railway service, the use of liquid fuels and electric power are both becoming sufficiently widely distributed to merit attention in their own terms rather than submerged by conversion into terms of coal by the use of arbitrary equipments. The third annual statement is for the years 1942 and 1943. It includes Class I railways, excluding terminal and switching companies. The units of consumption are given per locomotive-hour in yard switching service, per 1,000 gross ton-miles in road freight service, and per passenger-train mile. The table appears on the following five pages.

Unit Fuel and Power Consumption of Locomotives and Rail Motor Cars—Railways of Class I in the United States (Excluding Switching and Terminal Companies) Calendar Years 1943 and 1942

Road		Fuel and power consumed per yard-switching locomotive-hour						Fuel and power consumed per 1,000 gross ton-miles (includ. locos. and tenders)—road freight service				Fuel and power consumed per passenger-train car-mile—road passenger service							
		Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Gals. of gasoline (gasoline and gas electric locos.)	Gals. of Diesel fuel (Diesel locos.)	Equated lb. of fuel (all locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Equated lb. of fuel (all road frt. locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Gals. of Diesel fuel (Diesel locos.)	Kw.-hrs. (electric locos.)	Kw.-hrs. (motor-car trains)	Gals. of gasoline (motor-car trains)	Gals. of Diesel fuel (motor-car trains)	Equated lb. of fuel (all road-pass. service)
SUMMARY:																			
Eastern District	1943	769	44.43	112	8.7	5.34	684	118		24.43	115	16.9		:27	3.5	6.0	.64	:31	14.6
	1942	744	61.53	113	8.4	5.21	666	114	38.18	24.06	111	16.6		.27	3.5	6.0	.65	.27	14.3
Pocahontas Region	1943	915				4.91	912	85		50.63	86	16.1		.29	28.8		:48		15.8
	1942	886				4.45	884	81		50.39	82	16.5		.33	24.2		.48		16.0
Southern Region	1943	832	72.12			7.14	773	125	7.03		123	16.5	:89	.29		6.2	.44	:25	15.4
	1942	817	74.96			6.91	766	123	7.20		122	16.5	:95	.29		6.3	.42	:25	15.1
Western District	1943	858	58.18	99	8.0	5.84	729	118	8.32	32.05	113	18.4	:96	.26	3.9	5.6	:47	:20	15.2
	1942	837	57.96	101	8.3	5.91	731	115	8.24	30.57	111	18.4	1.02	:26	3.9	5.2	:45	:22	15.7
UNITED STATES	1943	805	58.39	114	8.6	5.78	718	117	8.31	28.97	114	17.2	.96	:27	3.5	6.0	:49	:24	15.0
	1942	782	58.19	115	8.4	5.72	709	113	8.23	28.23	111	17.0	1.01	.27	3.7	6.0	.48	:24	15.1
NEW ENGLAND REGION:																			
Bangor & Aroostook	1943	789					789	124			124	11.4							11.4
	1942	804					804	120			120	11.7							11.7
Boston & Albany	1943	518				6.59	519	179			178	22.8							22.8
	1942	565				6.86	564	143			143	21.0							21.0
Boston & Maine	1943	701				4.89	469	99		198.23	100	15.2					.48	.17	15.1
	1942	707				5.00	473	92		201.40	94	15.1		.45			.46	.18	15.0
Canadian National Lines in New England	1943	1,233					1,233	112			112	33.4							33.4
	1942	1,265					1,265	120			121	31.4							31.4
Canadian Pacific (Lines in Maine)	1943	685					687	97			97	10.4							10.4
	1942	698					700	97			97	10.0							10.0
Canadian Pacific (Lines in Vermont)	1943	634					634	121			121	15.7							15.7
	1942	611					611	115			115	14.8							14.8
Central Vermont	1943	911				5.60	681	117			117	16.8					.29		16.4
	1942	725				5.43	600	117			117	16.3					.28		15.9
Maine Central	1943	591				5.78	439	106			106	13.3						:28	13.2
	1942	567			5.2	6.11	437	104			104	13.1		.44				:21	12.8
New York Connecting	1943									30.84	46				3.4				5.0
	1942									30.47	46				3.4				5.1
New York, New Haven & Hartford	1943	772		82		5.37	444	118		24.88	101	17.2		.28	4.1	5.1	.79	:21	11.9
	1942	739		85		5.64	459	115		23.96	98	16.3		.28	4.1	5.0	.67	.21	11.6
Rutland	1943	654					654	129			129	15.5							15.5
	1942	648					648	122			122	15.0							15.0
TOTAL NEW ENGLAND REGION	1943	693		101		5.30	486	117		28.43	110	16.9		.28	4.1	5.1	.55	.20	14.3
	1942	688		103	5.2	5.51	500	111		27.46	105	16.2		.28	4.1	5.0	.51	.19	13.8
GREAT LAKES REGION:																			
Ann Arbor	1943	480				3.26	378	94			94	25.5							25.5
	1942	522				3.38	405	94			93	26.0							26.0
Cambria & Indiana	1943							287			287								
	1942							321			321								
Delaware & Hudson	1943	678					678	106			106	14.8							14.8
	1942	658					659	102			102	14.5							14.5
Delaware, Lackawanna & Western	1943	1,009				5.35	825	124			124	20.0				5.4			19.3
	1942	974				5.09	807	116			116	19.9				5.3			19.1
Detroit & Mackinac	1943	529					531	125			124	15.3					:50		14.6
	1942	605					608	111			105	15.9					.52		15.1
Detroit & Toledo Shore Line	1943	723					723	81			81								
	1942	636					636	76			76								
Erie	1943	714			8.9	6.33	713	95			95	18.5					.94	.48	18.7
	1942	685			8.8	5.92	683	93			93	18.3					.95	.37	18.7
Grand Trunk Western	1943	840				5.95	662	88			88	14.4						.14	14.4
	1942	788	56.68			6.07	625	84			84	14.2						.14	14.2
Lehigh & Hudson River	1943	899					899	111			111								
	1942	901					901	108			108								
Lehigh & New England	1943	675					675	163			163								
	1942	657					657	168			168								
Lehigh Valley	1943	822		57	9.1	5.25	594	109			109	16.5		.85	6.4		:71		16.1
	1942	852		67	9.1	4.73	621	109			109	15.9		.40	7.0		.74		15.5

Unit Fuel and Power Consumption of Locomotives and Rail Motor Cars—Railways of Class I in the United States

Road																				
Lehigh Valley	1943	822	...	57	9.1	5.25	594	109	...	...	109	16.5	...	.85	6.4	...	.71	...	16.1
	1942	852	...	67	9.1	4.73	621	109	...	...	109	15.9	...	.40	7.0	...	.74	...	15.5

Unit Fuel and Power Consumption of Locomotives and Rail Motor Cars—Railways of Class I in the United States (Excluding Switching and Terminal Companies) Calendar Years 1943 and 1942

Road		Fuel and power consumed per yard-switching locomotive-hour						Fuel and power consumed per 1,000 gross ton-miles (includ. locos. and tenders)—road freight service				Fuel and power consumed per passenger-train car-mile—road passenger service							
		Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Gals. of gasoline (gasoline and gas electric locos.)	Gals. of Diesel fuel (Diesel locos.)	Equated lb. of fuel (all locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Equated lb. of fuel (oil road frt. locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Gals. of Diesel fuel (Diesel locos.)	Kw.-hrs. (electric locos.)	Kw.-hrs. (motor-car trains)	Gals. of gasoline (motor-car trains)	Gals. of Diesel fuel (motor-car trains)	Equated lb. of fuel (all road-pass. service)
Monongahela	1943	868	...	...	...	...	868	89	...	...	89	50.4	...	...	...	...	...	...	50.4
	1942	902	...	...	...	...	902	88	...	...	89	47.3	...	...	...	...	1.00	...	44.0
Montour	1943	1,318	...	...	...	...	1,318	344	...	...	344	...	...	...	...	...	...	...	...
	1942	1,348	...	...	...	...	1,348	335	...	...	335	...	...	...	...	...	...	...	...
New York Central	1943	720	...	112	...	5.09	649	100	...	48.15	100	14.8	...	...	3.6	4.8	.54	...	14.3
	1942	712	...	123	...	5.00	651	95	...	49.36	95	14.2	...	...	3.6	4.7	.58	...	13.6
New York, Chicago & St. Louis	1943	716	...	...	...	5.67	700	87	...	...	87	18.0	...	...	11.0	...	...	...	18.0
	1942	663	...	...	...	5.22	657	86	...	...	86	18.6	...	...	13.2	...	...	...	18.6
New York, Ontario & Western	1943	533	...	...	...	4.15	400	189	...	...	189	13.3	...	...	...	...	...	...	13.3
	1942	559	...	...	...	3.91	431	186	...	...	186	12.4	...	...	...	...	...	...	12.4
New York, Susquehanna & Western	1943	792	...	...	...	7.02	336	220	...	...	150	39.9	...	.16	...	...	1.34	.48	27.4
	1942	883	...	...	...	6.54	266	255	...	...	200	38.1	...	.09	...	...	1.01	.46	27.4
Pere Marquette	1943	711	...	...	...	6.49	729	90	...	...	90	14.9	...	.16	...	...	...	...	14.5
	1942	689	...	...	...	5.67	692	90	...	...	90	14.5	...	.16	...	...	...	...	14.1
Pittsburgh & Lake Erie	1943	685	...	...	...	...	685	88	...	...	88	28.8	...	...	...	...	...	...	28.8
	1942	670	...	...	...	...	670	82	...	...	82	27.3	...	...	...	...	...	...	27.3
Pittsburg & Shawmut	1943	...	...	...	...	...	...	230	...	...	230	...	...	...	...	...	...	...	...
	1942	...	...	...	...	...	...	226	...	...	226	...	...	...	...	...	...	...	...
Pittsburgh & West Virginia	1943	1,214	...	...	...	7.46	1,225	177	...	...	177	...	...	...	...	...	...	...	...
	1942	1,253	...	...	...	...	1,253	153	...	...	153	...	...	...	...	...	...	...	...
Pittsburg , Shawmut & Northern	1943	1,196	...	...	...	...	1,196	271	...	...	271	...	...	...	...	...	...	...	...
	1942	1,094	...	...	...	...	1,094	239	...	...	239	...	...	...	...	...	...	...	...
Wabash	1943	769	...	...	...	5.99	632	106	...	...	107	15.8	...	...	...	...	.26	...	15.8
	1942	756	...	...	...	5.51	642	106	...	...	106	16.2	...	...	...	...	.25	...	16.1
TOTAL GREAT LAKES REGION	1943	741	...	114	9.1	5.40	669	102	...	48.20	102	15.6	...	.16	3.7	5.1	.74	.44	15.2
	1942	728	58.68	124	9.1	5.17	663	98	...	49.77	98	15.1	...	.15	3.8	5.0	.76	.39	14.7
CENTRAL EASTERN REGION:																			
Akron, Canton & Youngstown	1943	698	...	...	...	4.96	583	120	...	...	120	...	...	...	...	...	...	...	...
	1942	773	...	...	...	4.26	669	117	...	...	117	...	...	...	...	...	...	...	...
Baltimore & Ohio	1943	677	44.43	31	...	4.79	674	146	...	265.85	145	22.7	...	.27	8.2	...	.36	...	20.1
	1942	679	45.24	26	...	4.47	673	140	...	227.91	140	23.1	...	.27	9.3	...	.35	.34	20.2
Bessemer & Lake Erie	1943	632	...	...	...	5.46	635	95	...	...	95	24.7	...	...	...	...	...	...	24.7
	1942	632	...	...	...	5.40	634	89	...	...	89	21.6	...	...	...	...	...	...	21:6
Central of New Jersey	1943	549	...	...	...	4.94	424	140	...	...	140	23.2	...	.27	...	...	...	...	23.2
	1942	539	...	...	...	4.78	417	128	...	...	128	23.6	...	.31	...	...	...	...	23.5
Chicago & Eastern Illinois	1943	1,117	...	...	...	4.87	875	118	...	...	118	19.1	...	...	...	...	.39	...	19.1
	1942	1,095	...	...	...	4.43	899	121	...	...	121	19.5	...	...	...	...	.40	...	19.6
Chicago & Illinois Midland	1943	1,102	...	...	...	...	1,105	164	...	...	164	25.2	...	...	...	...	...	...	25.3
	1942	1,059	...	...	...	...	1,062	152	...	...	152	25.6	...	...	...	...	...	...	25.7
Chicago, Indianapolis & Louisville	1943	1,105	...	...	...	8.01	694	127	...	...	127	20.6	...	...	...	...	...	...	20.6
	1942	1,151	...	...	...	8.15	817	126	...	...	126	20.3	...	...	...	...	...	...	20.3
Detroit, Toledo & Ironton	1943	749	...	...	...	5.99	758	101	...	...	102	...	...	...	...	...	...	...	...
	1942	706	...	...	...	5.20	704	102	...	...	102	...	...	...	...	...	...	...	...
Elgin, Joliet & Eastern	1943	917	...	...	...	5.79	464	135	...	...	134	...	...	...	...	...	...	...	...
	1942	870	...	...	...	5.66	450	130	...	...	129	...	...	...	...	...	...	...	...
Illinois Terminal Co	1943	1,132	...	74	...	...	674	88	...	26.50	47	...	...	...	2.2	2.9	.23	...	3.6
	1942	1,080	...	65	...	...	615	100	...	26.44	50	...	...	...	2.1	3.1	.22	...	3.9
Long Island	1943	775	...	84	...	7.41	577	321	...	104.90	306	18.7	...	...	7.0	5.5	...	...	10.9
	1942	717	...	76	...	6.96	502	325	...	101.77	308	18.3	...	...	6.8	5.5	...	...	10.8
Missouri-Illinois	1943	...	...	...	...	...	...	282	...	...	282	21.7	...	...	...	...	.33	...	8.6
	1942	...	...	...	...	...	...	268	...	...	268	30.1	...	...	...	...	.38	...	9.2
Pennsylvania System	1943	854	...	106	7.8	4.37	816	133	...	22.53	122	17.1	...	...	3.3	8.1	.67	.36	12.7
	1942	798	68.97	106	6.9	3.40	769	124	38.18	22.36	114	16.7	...	...	3.4	8.2	.74	.36	12.4
Pennsylvania-Reading Seashore Lines	1943	570	...	...	...	...	570	219	...	...	219	17.3	...	...	...	7.7	.94	...	16.7
	1942	557	84.69	...	...	...	573	224	...	...	224	19.8	...	...	...	8.2	.81	...	19.0
Reading Company	1943	657	...	254	...	5.02	489	123	...	...	123	19.7	...	.45	...	8.6	.74	.31	18.1
	1942	622	...	235	...	4.74	476	121	...	...	121	19.9	...	.39	...	8.5	.84	.43	18.2
Staten Island Rapid Transit	1943	977	...	...	...	...	977	684	...	...	684	91.9	...	...	...	6.3	...	...	10.6
	1942	976	...	...	...	...	976	744	...	...	744	57.0	...	...	...	5.8	...	...	9.2

Unit Fuel and Power Consumption of Locomotives and Rail Motor Cars—Railways of Class I in the United States (Excluding Switching and Terminal Companies) Calendar Years 1943 and 1942

Road		Fuel and power consumed per yard-switching locomotive-hour						Fuel and power consumed per 1,000 gross ton-miles (includ. locos. and tenders)—road freight service				Fuel and power consumed per passenger-train car-mile—road passenger service							
		Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Gals. of gasoline (gasoline and gas electric locos.)	Gals. of Diesel fuel (Diesel locos.)	Equated lb. of fuel (all locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Equated lb. of fuel (all road frt. locos.)	Lb. of coal (steam locos.)	Gals. of fuel (oil (steam locos.)	Gals. of Diesel fuel (Diesel locos.)	Kw.-hrs. (electric locos.)	Kw.-hrs. (motor-car trains)	Gals. of gasoline (motor-car trains)	Gals. of Diesel fuel (motor-car trains)	Equated lb. of fuel (all road-pass. service)
Western Maryland	1943	1,079	...	...	...	5.39	981	160	...	...	160	28.5	...	...	...	...	...	...	28.5
	1942	1,090	...	...	...	6.30	1,068	162	...	...	162	33.5	...	...	...	...	...	...	33.5
Wheeling & Lake Erie	1943	887	...	...	...	7.31	815	121	...	...	121	...	...	...	...	...	...	...	...
	1942	845	...	...	...	7.29	770	123	...	...	123	...	...	...	...	...	...	...	...
TOTAL CENTRAL EASTERN REGION	1943	798	44.43	113	7.8	5.29	721	136	...	...	130	18.5	...	.27	3.4	6.4	.51	.36	14.3
	1942	762	63.58	109	6.9	5.12	690	129	38.18	...	123	18.5	...	.27	3.4	6.4	.53	.37	14.2
POCAHONTAS REGION:																			
Chesapeake & Ohio	1943	847	...	...	...	...	847	77	...	...	77	15.2	...	...	...	...	.43	...	15.2
	1942	830	...	...	...	...	830	73	...	...	73	15.7	...	...	...	...	.43	...	15.7
Norfolk & Western	1943	1,003	...	...	...	...	1,003	88	...	79.23	92	17.6	...	...	...	...	...	...	17.8
	1942	954	...	...	...	...	954	84	...	81.37	88	17.5	...	...	24.2	...	...	...	17.6
Richmond, Fredericksburg & Potomac	1943	787	...	...	...	4.91	773	107	...	45.13	106	15.3	...	.29	...	...	.73	...	13.7
	1942	753	...	...	...	4.45	740	107	...	45.30	106	15.7	...	.33	...	...	.71	...	13.7
Virginian	1943	1,411	...	...	...	...	1,411	121	...	39.67	109	28.2	...	...	...	...	...	...	28.2
	1942	1,311	...	...	...	...	1,311	117	...	39.20	105	31.3	...	...	...	...	...	...	31.3
TOTAL POCAHONTAS REGION	1943	915	...	...	...	4.91	912	85	...	50.63	86	16.1	...	.29	28.8	...	.48	...	15.8
	1942	886	...	...	...	4.45	884	81	...	50.39	82	16.5	...	.33	24.2	...	.48	...	16.0
SOUTHERN REGION:																			
Alabama Great Southern	1943	722	...	...	...	6.09	714	127	...	...	115	13.6	...	.30	...	...	...	...	13.5
	1942	764	...	...	...	6.09	754	120	...	...	114	15.0	...	.27	...	...	...	...	14.6
Atlanta & West Point (incl. Western of Alabama)	1943	850	...	...	...	...	850	157	...	...	157	13.9	...	...	...	...	...	...	13.9
	1942	849	...	...	...	...	849	149	...	...	149	14.0	...	...	...	...	...	...	14.0
Atlanta, Birmingham & Coast	1943	811	...	...	...	...	811	149	...	...	149	19.9	...	...	...	...	...	...	19.9
	1942	758	...	...	...	...	758	138	...	...	138	32.6	...	...	...	...	...	...	32.6
Atlantic Coast Line	1943	803	...	...	...	7.51	675	109	8.36	...	108	15.4	1.76	.31	...	...	...	...	13.5
	1942	774	80.02	...	...	7.30	700	108	7.19	...	108	15.5	1.08	.31	...	...	...	...	13.3
Central of Georgia	1943	869	...	...	...	7.26	603	121	...	...	121	14.3	...	.21	...	...	...	...	15.8
	1942	844	...	...	...	7.12	581	119	...	...	120	16.6	...	.23	...	...	...	...	16.5
Charleston & Western Carolina	1943	478	...	...	...	...	478	139	...	...	139	17.7	...	...	...	...	...	...	17.7
	1942	518	...	...	...	...	518	134	...	...	134	14.5	...	...	...	...	...	...	14.5
Cincinnati, New Orleans & Texas Pacific	1943	980	...	...	...	6.04	789	115	...	...	111	13.5	...	...	...	...	...	...	13.5
	1942	994	...	...	...	6.00	797	112	...	...	108	15.0	...	...	.30	...	...	...	14.7
Clinchfield	1943	984	...	...	...	...	984	137	...	...	137	19.1	...	...	...	...	...	...	19.1
	1942	965	...	...	...	...	965	140	...	...	140	19.6	...	...	...	...	...	...	19.6
Columbus & Greenville	1943	916	...	...	...	...	916	164	...	...	164	19.5	...	...	...	...	.37	...	17.7
	1942	910	...	...	...	...	910	159	...	...	159	23.1	...	...	...	...	.36	...	17.5
Florida East Coast	1943	...	72.66	...	...	...	865	...	6.96	...	83	...	.89	.28	...	...	...	...	8.4
	1942	...	75.04	...	...	...	893	...	7.23	...	86	...	.89	.30	...	...	...	...	8.1
Georgia	1943	714	...	...	...	...	714	135	...	...	135	13.8	...	...	...	...	.02	...	13.8
	1942	700	...	...	...	...	700	133	...	...	133	12.4	...	...	...	...	.05	...	12.4
Georgia & Florida	1943	813	...	...	...	...	813	145	...	...	145	44.5	...	...	...	...	.03	...	35.0
	1942	891	...	...	...	...	891	145	...	...	145	9.9	...	...	...	...	.04	...	9.8
Georgia, Southern & Florida	1943	975	...	...	...	5.55	770	129	...	...	129	14.3	...	...	...	...	...	...	14.3
	1942	968	...	...	...	5.72	753	124	...	...	124	12.9	...	.34	...	...	...	...	12.9
Gulf, Mobile & Ohio	1943	928	...	...	...	7.02	695	115	...	...	114	8.8	...	.24	...	...	.49	.23	7.1
	1942	908	...	...	...	6.73	688	110	...	...	110	14.9	...	.24	...	...	.46	.19	7.6
Gulf & Ship Island	1943	873	...	...	...	...	873	150	...	...	150	14.4	...	...	...	...	...	...	14.4
	1942	842	...	...	...	...	842	148	...	...	148	15.5	...	...	...	...	...	...	15.5
Illinois Central (incl. Yazoo & Mississippi Valley)	1943	873	...	...	...	10.58	793	113	...	...	113	16.7	...	.23	...	6.2	...	.17	14.7
	1942	866	...	...	...	9.73	787	112	...	...	112	16.9	...	.25	...	6.3	...	.20	14.9
Louisville & Nashville	1943	807	...	...	...	5.00	790	129	...	...	129	19.5	...	.28	...	...	.39	...	22.8
	1942	788	...	...	...	4.46	770	126	...	...	126	18.2	...	.28	...	...	.40	...	20.2
Mississippi Central	1943	842	...	...	...	...	842	127	...	...	127	17.8	...	...	...	...	...	...	17.8
	1942	759	...	...	...	...	759	117	...	...	117	16.1	...	...	...	...	...	...	16.1
Nashville, Chattanooga & St. Louis	1943	770	...	...	...	6.38	797	150	...	...	150	16.6	...	...	...	...	...	...	16.6
	1942	759	...	...	...	6.06	771	144	...	...	144	16.9	...	...	...	...	...	...	16.9
New Orleans & Northeastern	1943	791	...	...	...	4.59	694	121	...	...	121	13.8	...	.30	...	...	...	...	13.6
	1942	793	...	...	...	4.68	706	114	...	...	113	14.5	...	.27	...	...	...	...	13.8

	1942	759	...	...	...	6.06	771	144	...	...	144	16.9	...	...	...	...	...	...		16.9
New Orleans & Northeastern	1943	791	...	...	...	4.59	694	121	...	...	121	13.8	...	.30	...	...	...	...		13.6
	1942	793	...	...	...	4.68	706	114	...	...	113	14.5	...	.27	...	...	...	...		13.8

Unit Fuel and Power Consumption of Locomotives and Rail Motor Cars—Railways of Class I in the United States (Excluding Switching and Terminal Companies) Calendar Years 1943 and 1942

Road		Fuel and power consumed per yard-switching locomotive-hour: Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Gals. of gasoline (gasoline and gas electric locos.)	Gals. of Diesel fuel (Diesel locos.)	Equated lb. of fuel (all locos.)	Fuel and power consumed per 1,000 gross ton-miles (includ. locos. and tenders)—road freight service: Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Equated lb. of fuel (all road frt. locos.)	Fuel and power consumed per passenger-train car-mile—road passenger service: Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Gals. of Diesel fuel (Diesel locos.)	Kw.-hrs. (electric locos.)	Kw.-hrs. (motor-car trains)	Gals. of gasoline (motor-car trains)	Gals. of Diesel fuel (motor-car trains)	Equated lb. of fuel (all road-pass. service)
Norfolk Southern	1943	788	...	...	...	...	788	99	...	...	99	13.9	...	...	...	...	.33	...	12.0
	1942	690	...	...	...	...	690	95	...	...	95	13.5	...	...	...	...	.32	...	11.9
Seaboard Air Line	1943	567	43.28	...	...	6.89	595	128	5.22	...	119	15.1	.64	.28	...	...	.44	.20	13.4
	1942	554	46.03	...	...	6.93	579	124	6.08	...	121	14.7	1.22	.28	...	...	.39	.18	12.9
Southern	1943	962	...	...	...	6.55	925	145	...	...	144	17.1	...	.29	...	...	...	.34	16.1
	1942	942	...	...	...	6.49	905	143	...	...	143	17.2	...	.28	...	...	...	.38	16.1
Tennessee Central	1943	1,143	...	...	...	5.58	538	206	...	...	206	22.9	...	...	...	...	...	...	22.9
	1942	1,095	...	...	...	5.79	536	201	...	...	201	25.6	...	...	...	...	...	...	25.6
TOTAL SOUTHERN REGION	1943	832	72.12	...	...	7.14	773	125	7.03	...	123	16.5	.89	.29	...	6.2	.44	.25	15.4
	1942	817	74.96	...	...	6.91	766	123	7.20	...	122	16.5	.95	.29	...	6.3	.42	.25	15.1
NORTHWESTERN REGION:																			
Chicago & North Western	1943	1,027	60.72	...	...	5.05	967	122	10.21	...	123	20.1	1.34	.26	...	...	.45	...	19.5
	1942	958	60.71	...	...	5.14	930	118	9.80	...	118	19.9	1.35	.26	...	...	.43	...	19.4
Chicago Great Western	1943	954	79.31	...	6.2	6.07	797	122	8.89	...	122	18.6	1.63	...	...	...	.53	...	17.1
	1942	949	...	...	6.7	6.16	793	119	7.95	...	119	18.6	.75	...	...	...	.52	...	16.6
Chicago, Milwaukee, St. Paul & Pacific	1943	842	43.69	110	...	5.47	763	115	10.51	31.95	122	17.5	1.07	.22	3.8	...	.44	...	17.3
	1942	798	36.38	111	...	5.46	729	109	9.93	30.37	116	17.9	1.07	.21	3.8	...	.44	...	17.4
Chicago, St. Paul, Minneapolis & Omaha	1943	687	...	...	...	5.05	687	111	...	...	111	16.7	...	.28	...	...	.42	...	16.9
	1942	660	...	...	...	5.56	670	110	...	...	110	16.4	...	.29	...	...	.41	...	16.9
Duluth, Missabe & Iron Range	1943	916	...	...	...	...	918	63	...	...	63	32.8	...	...	...	...	...	...	32.9
	1942	808	...	...	...	...	810	62	...	...	62	32.2	...	...	...	...	...	...	32.3
Duluth, South Shore & Atlantic	1943	700	...	...	...	...	701	123	...	...	124	19.1	...	...	...	...	...	...	19.1
	1942	681	...	...	...	...	682	121	...	...	122	19.2	...	...	...	...	...	...	19.2
Duluth, Winnipeg & Pacific	1943	1,256	...	...	...	...	1,257	101	...	...	101	15.2	...	...	...	...	...	...	15.2
	1942	1,287	...	...	...	...	1,288	102	...	...	102	15.4	...	...	...	...	...	...	15.4
Great Northern	1943	962	66.13	...	...	6.84	744	88	6.56	32.61	98	15.1	.96	.36	4.5	...	.41	.19	16.3
	1942	982	66.98	...	...	6.83	755	85	6.25	31.89	94	15.0	.98	.35	4.6	...	.40	.19	16.7
Green Bay & Western	1943	782	...	...	...	5.96	670	109	...	...	109	...	...	...	...	...	...	...	...
	1942	676	...	...	...	6.38	654	117	...	...	117	...	...	...	...	...	...	...	...
Lake Superior & Ishpeming	1943	755	...	...	...	...	760	128	...	...	129	...	...	...	...	...	...	...	...
	1942	735	...	...	...	...	739	121	...	...	122	...	...	...	...	...	...	...	...
Minneapolis & St. Louis	1943	999	...	...	...	7.50	1,000	130	...	...	131	11.8	...	...	...	...	.42	...	28.1
	1942	1,000	...	...	...	7.51	1,001	129	...	...	130	11.3	...	...	...	...	.39	...	26.5
Minneapolis, St. Paul & Sault Ste. Marie	1943	691	...	...	...	6.18	652	95	...	...	96	15.4	...	...	...	...	...	...	15.5
	1942	680	...	...	...	6.04	647	96	...	...	96	14.7	...	...	...	...	...	...	14.8
Northern Pacific	1943	855	53.60	...	...	5.83	809	132	7.49	...	132	23.1	1.11	...	...	...	.43	...	22.8
	1942	794	48.09	...	...	5.82	761	125	6.60	...	125	22.2	1.11	...	...	...	.44	...	22.0
Spokane International	1943	584	...	...	...	...	584	105	...	...	105	13.5	...	...	...	...	...	...	13.6
	1942	563	...	...	...	...	563	100	...	...	100	17.4	...	...	...	...	...	...	17.6
Spokane, Portland & Seattle	1943	...	54.81	78	...	5.82	381	356	7.74	33.13	97	...	.97	...	...	...	...	...	11.5
	1942	...	57.63	86	...	5.30	438	123	7.68	30.32	94	...	1.15	...	...	...	...	...	13.7
TOTAL NORTHWESTERN REGION	1943	893	58.18	99	6.2	5.98	802	113	7.30	32.05	114	19.5	1.00	.26	3.9	...	.44	.19	18.5
	1942	852	58.01	101	6.7	6.03	778	109	6.93	30.55	109	19.2	1.03	.26	3.9	...	.43	.19	18.4
CENTRAL WESTERN REGION:																			
Alton	1943	918	...	...	...	...	920	123	...	...	123	18.7	...	.23	...	...	.37	...	17.6
	1942	904	...	...	...	...	906	130	...	...	130	17.0	...	.23	...	...	.36	...	16.2
Atchison, Topeka & Santa Fe	1943	727	59.74	...	...	6.26	752	110	8.51	...	118	16.5	.98	.27	...	...	.59	...	14.3
	1942	748	60.60	...	...	6.56	789	108	8.39	...	116	17.8	1.00	.27	...	...	.58	...	15.0
Chicago, Burlington & Quincy	1943	909	63.47	...	5.8	6.11	792	104	7.40	...	104	17.3	1.34	.21	...	...	.48	.17	18.3
	1942	853	56.10	...	6.1	6.09	751	105	8.29	...	107	18.1	1.46	.22	...	...	.46	.19	19.2
Chicago, Rock Island & Pacific	1943	925	78.03	...	5.7	5.23	820	130	8.91	...	117	18.6	1.00	.28	...	...	.54	.26	17.6
	1942	937	69.82	...	5.3	5.55	830	126	8.50	...	113	19.7	1.05	.27	...	...	.49	.26	19.2
Colorado & Southern	1943	611	73.12	...	...	...	626	160	37.34	...	161	22.3	1.40	.25	...	...	...	...	21.3
	1942	578	52.93	...	...	...	586	158	70.38	...	159	22.7	1.52	.27	...	...	...	...	23.0
Colorado & Wyoming	1943	680	...	...	...	7.38	643	279	...	...	279	...	...	...	...	...	...	...	...
	1942	689	...	...	...	...	689	266	...	...	266	...	...	...	...	...	...	...	...

Unit Fuel and Power Consumption of Locomotives and Rail Motor Cars—Railways of Class I in the United States (Excluding Switching and Terminal Companies) Calendar Years 1943 and 1942

Road		Fuel and power consumed per yard-switching locomotive-hour						Fuel and power consumed per 1,000 gross ton-miles (includ. locos. and tenders)—road freight service				Fuel and power consumed per passenger-train car-mile—road passenger service							
		Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Gals. of gasoline (gasoline and gas electric locos.)	Gals. of Diesel fuel (Diesel locos.)	Equated lb. of fuel (all locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Equated lb. of fuel (all road frt. locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Gals. of Diesel fuel (Diesel locos.)	Kw.-hrs. (electric locos.)	Kw.-hrs. (motor-car trains)	Gals. of gasoline (motor-car trains)	Gals. of Diesel fuel (motor-car trains)	Equated lb. of fuel (all road-pass. service)
Denver & Rio Grande Western	1943	787	...	...	...	5.64	694	181	...	...	175	23.0	...	.34	...	...	...	...	23.0
	1942	812	...	...	...	5.22	719	173	...	...	169	21.9	...	.34	...	...	...	.38	22.0
Denver & Salt Lake	1943	1,629	...	...	...	...	1,629	268	...	...	268	39.8	...	...	...	...	...	...	39.8
	1942	1,438	...	...	...	...	1,438	266	...	...	266	41.6	...	...	...	...	...	...	41.6
Fort Worth & Denver City	1943	...	99.16	...	...	6.74	964	108	9.68	...	132	18.5	1.24	.24	...	...	.45	.13	19.9
	1942	653	82.39	...	...	6.78	906	127	9.78	...	134	21.1	1.34	.25	...	...	.45	...	21.6
Nevada Northern	1943	944	...	...	...	...	944	102	...	...	102	37.5	...	...	...	...	...	...	37.5
	1942	984	...	...	...	...	984	102	...	...	102	33.0	...	...	...	...	...	...	23.0
Northwestern Pacific	1943	...	54.05	...	...	...	643	...	10.38	...	124	...	1.42	...	...	...	...	...	16.9
	1942	...	53.92	...	...	...	642	...	10.44	...	124	...	1.50	...	...	...	.48	...	17.9
Southern Pacific Co., Pacific Lines	1943	915	48.53	...	...	4.94	455	138	8.52	...	103	11.5	.90	.27	...	...	.71	...	10.6
	1942	849	48.11	...	...	4.91	483	121	8.75	...	105	10.4	.93	.28	...	...	.63	...	11.0
Toledo, Peoria & Western	1943	1,043	...	...	...	...	1,043	118	...	...	118	...	...	...	...	...	...	...	...
	1942	963	...	...	...	...	963	123	...	...	123	...	...	...	...	...	...	...	...
Union Pacific R. R.	1943	733	52.97	...	...	6.63	667	118	10.55	...	124	16.5	1.15	.25	...	...	.21	...	15.8
	1942	772	53.71	...	...	6.80	697	116	10.67	...	122	16.8	1.26	.24	...	...	.18	...	16.3
Utah Ry	1943	1,057	...	...	...	...	1,060	222	...	...	222	...	...	...	...	...	...	...	...
	1942	940	...	...	...	...	941	226	...	...	226	...	...	...	...	...	...	...	...
Western Pacific	1943	781	51.33	...	...	4.81	375	127	8.18	...	93	5.6	.74	.30	...	...	...	...	8.5
	1942	713	54.17	...	...	4.59	462	119	8.27	...	96	4.8	.83	...	...	...	...	...	9.6
TOTAL CENTRAL WESTERN REGION	1943	816	54.81	...	8.8	5.69	671	124	8.78	...	117	17.3	.95	.25	...	...	.52	.21	14.8
	1942	822	54.38	...	8.9	5.80	689	120	8.78	...	116	17.9	1.01	.26	...	...	.50	.23	15.4
SOUTHWESTERN REGION:																			
Burlington-Rock Island	1943	...	...	...	...	...	...	...	9.08	...	108	...	1.57	...	...	...	...	.12	8.1
	1942	...	...	...	...	...	...	...	9.86	...	117	...	1.62	.21	...	...	.40	.12	5.4
Gulf Coast Lines	1943	...	73.60	27	...	4.78	797	...	7.05	34.96	84	...	1.15	...	5.4	5.6	.39	...	13.6
	1942	...	76.87	20	...	4.84	829	...	7.27	39.80	87	...	1.22	...	8.8	5.2	.14	...	14.3
International-Great Northern	1943	...	81.46	...	...	6.28	805	...	9.46	...	113	...	1.22	...	...	...	...	...	14.6
	1942	...	76.34	...	...	5.66	717	...	9.30	...	111	...	1.22	...	...	...	...	...	14.6
Kansas City Southern	1943	1,027	72.61	...	...	8.13	953	135	8.71	...	114	25.3	1.26	.27	...	...	...	...	16.8
	1942	1,009	72.54	...	...	7.89	949	137	8.59	...	113	28.8	1.37	.27	...	...	...	...	17.6
Kansas, Oklahoma & Gulf	1943	721	...	...	...	...	721	123	...	...	123	...	...	...	...	...	.55	...	6.1
	1942	629	...	...	...	...	629	115	...	...	125	...	...	...	...	...	.88	...	6.1
Louisiana & Arkansas	1943	...	76.57	...	...	9.71	873	...	8.16	...	97	...	1.20	.21	...	...	...	...	13.7
	1942	...	72.34	...	...	9.44	829	...	8.19	...	96	...	1.18	.22	...	...	...	...	13.8
Midland Valley	1943	749	...	...	...	...	749	145	...	...	145	19.0	...	...	...	...	...	...	19.0
	1942	707	...	...	...	...	707	140	...	...	140	...	...	...	...	...	...	...	...
Missouri & Arkansas	1943	...	...	...	...	...	...	205	...	...	205	35.4	...	...	...	...	.44	...	36.6
	1942	...	...	...	...	...	...	194	...	...	195	33.6	...	...	...	...	.39	...	33.4
Missouri-Kansas-Texas Lines	1943	700	56.89	...	...	...	684	306	7.38	...	88	17.0	.92	...	...	...	.36	...	10.8
	1942	703	57.31	...	...	...	688	274	7.23	...	87	7.8	.97	...	...	...	.37	...	11.4
Missouri Pacific	1943	849	71.79	...	...	5.46	780	112	7.71	...	109	18.9	.99	.35	...	...	.42	.56	13.1
	1942	839	76.61	...	...	5.60	781	112	7.69	...	110	17.6	1.08	.32	...	...	.44	.68	14.9
Oklahoma City-Ada-Atoka	1943	...	...	...	...	...	...	213	...	...	213	6.1	...	...	...	...	...	...	6.1
	1942	...	...	...	...	...	...	222	...	...	222	...	...	...	...	...	...	...	...
St. Louis-San Francisco	1943	841	53.54	...	...	7.48	779	144	9.52	...	132	19.4	1.09	...	...	...	.39	...	13.3
	1942	799	66.39	...	...	7.50	800	136	9.26	...	125	21.4	1.16	...	...	...	.39	...	14.3
St. Louis, San Francisco & Texas	1943	...	68.05	...	...	...	810	...	10.73	...	128	...	.90	...	...	...	.44	...	10.9
	1942	...	71.46	...	...	...	851	...	10.78	...	128	...	.99	...	...	...	.45	...	17.2
St. Louis Southwestern Lines	1943	917	74.05	...	...	6.67	928	310	6.90	...	85	...	1.22	...	...	...	.50	...	14.3
	1942	883	73.31	...	...	7.26	888	260	6.71	...	81	...	1.20	...	...	...	.69	...	13.8
Texas & New Orleans	1943	...	62.29	...	...	5.33	648	...	7.46	...	89	...	.78	...	...	...	.38	...	9.2
	1942	...	61.41	...	...	5.58	656	...	7.08	...	84	...	.81	...	...	...	.38	...	9.7
Texas & Pacific	1943	...	61.93	...	...	...	737	...	8.06	...	98	...	.91	...	...	...	...	...	10.8
	1942	...	61.14	...	...	...	728	...	7.76	...	92	...	.96	...	...	...	...	...	11.4
Texas-Mexican	1943	...	79.79	...	...	7.39	194	...	...	...	20	...	...	...	...	...	...	...	...
	1942	...	64.09	...	...	6.78	168	...	60.00	...	22	...	...	...	...	...	...	...	...
TOTAL SOUTHWESTERN REGION	1943	849	64.65	27	...	6.18	764	122	8.80	34.96	104	19.1	.98	.30	5.4	5.6	.40	.15	12.7
	1942	830	69.09	20	...	6.13	763	130	7.69	39.80	102	17.9	1.03	.29	8.8	5.2	.41	.13	13.1

Washington Station—Hub of Travel

Union Station is accommodating tremendously increased passenger traffic without undue inconvenience or delay

FROM 140,000 to 175,000 persons move through the Washington Union Station daily. They get on and off the more than 300 trains that move in and out of this station every day. Approximately 400,000 tickets are sold there every month, with total revenues close to three million dollars. More than 117,000 passenger cars and locomotives have been handled in this terminal in a single month. These and many other figures pertaining to this station seem almost fantastic. Increases of several hundred per cent in the various phases of this station's operation are so common as to have become practically routine now. For example, checking transactions at the baggage counter averaged 14,416 per month in 1939. They averaged 50,935 per month in 1943 and are running higher now. Meanwhile, parcels checked in the parcel room have increased nearly 300 per cent, despite the fact that one of the largest single batteries of parcel lockers in the country has been installed in the concourse.

The changes that have taken place are perhaps illustrated best by a comparison of the ticket office forces. The Washington station was considered a busy place in December, 1941, but, when the war began, the ticket selling forces totaled 31 persons while there were 26 information clerks and 17 reservation clerks. Today, the force comprises 140 ticket sellers, 124 information clerks and 174 reservation clerks.

What Has Been Done

The Washington Terminal handles passenger trains of the Baltimore & Ohio; the Chesapeake & Ohio; the Pennsylvania; the Richmond, Fredericksburg & Potomac; and the Southern—including through trains from numerous other railways which pass through the terminal over the lines mentioned. All of these trains use the Washington Terminal Railroad in getting into the station. This line has a total trackage of 52 miles. The train movements are controlled by modern interlocking signals of the color-position-light type, under the control of one main interlocking station and two subsidiary interlocking stations.

At all hours of the day and night, the waiting room and concourse are now crowded with people, but, because of the successful efforts of the station management to remain at least one jump ahead of this tidal wave of humanity, these crowds are, on the whole, good-natured and well-behaved. The efficiency with which this large segment of humanity is funneled through the station every day is ascribable to the continuing study given by the officers in charge of the station to the problems of handling people in the mass and the changes that have been made as the result of such study. One of the dramatic changes is the conversion of the formerly palatial President's waiting room into a lounge for those in the services, of whom some 5,000 daily use the facilities.

Not only has the number of passengers using the station increased almost fantastically, but present-day passengers stay longer in the station on the average than they did heretofore. Formerly, the predominant percentage of the passengers consisted of business men or tourists, few of whom lingered at the station. Today, service men and their families, war workers and casual travelers of all sorts fill the station 24 hours a day. As a result, it has been necessary to enlarge the public facilities materially. The restaurant and lunch room have been modernized and air-conditioned and their seating capacity has been increased from 232 to 310. The washrooms for men and women have been practically doubled in capacity. The barber shop has been modernized, air-conditioned and enlarged. An additional public telephone exchange has been established in the concourse with 16 booths and the number of public pay telephone stations has been increased from 15 to 45.

The normal capacity of the parcel room is 1,800 packages. To amplify the facility, an additional parcel room has been arranged in the concourse, with a capacity of 2,500 packages, while the number of self-service parcel lockers in the concourse has been increased from 508 to 1,065. A short concourse has been constructed adjacent to the parcel room to give further connection between the ticket lobby and the main concourse. A former mail distribution station at the west end of the concourse was abandoned, releasing 5,370 sq. ft. of additional space for passengers' use. Three escalators have been installed between the upper and lower train levels, to facilitate handling of passengers to and from trains using the lower level.

The entire lighting system of the station has been modernized. Fluorescent luminaries have been installed on the back of the benches in the waiting room, thus improving the reading range. The overhead lighting fixtures, installed in light galleries, have also been modernized. A public address system was also installed.

It was evident as early as 1941 that the arrangements for loading and unloading taxicabs at the station were inadequate, particularly since both operations were done at the same place. Nothing could be done to relieve the situation, however, until the city of Washington had remodeled the plaza in front of the station. This was done under the care of traffic engineers, who so co-ordinated the automobile traffic as to provide minimum interference. Under this system it became possible to separate the taxi loading and unloading operations.

Getting Passengers to and from Terminal

Under the new system, taxicabs are unloaded immediately in front of the main entrance to the station, while the loading is done at a series of platforms under cover at the west end of the station. In co-operation with the Office of Defense Transportation, and to conserve gasoline and rubber, taxicabs have been used on a group-loading basis or share-the-cab plan and, particularly after the arrival of the morning trains, separate loading locations for hotels, as distinct from other destinations, are used—the passenger calling the name of the hotel he desires and being directed to the proper cab by the taxi

Unit Fuel and Power Consumption of Locomotives and Rail Motor Cars—Railways of Class I in the United States (Excluding Switching and Terminal Companies) Calendar Years 1943 and 1942

Road	Year	Fuel and power consumed per yard-switching locomotive-hour						Fuel and power consumed per 1,000 gross ton-miles (includ. locos. and tenders)—road freight service				Fuel and power consumed per passenger-train car-mile—road passenger service							
		Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Gals. of gasoline (gasoline and gas electric locos.)	Gals. of Diesel fuel (Diesel locos.)	Equated lb. of fuel (all locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Equated lb. of fuel (all road frt. locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Gals. of Diesel fuel (Diesel locos.)	Kw.-hrs. (electric locos.)	Kw.-hrs. (motor-car trains)	Gals. of gasoline (motor-car trains)	Gals. of Diesel fuel (motor-car trains)	Equated lb. of fuel (all road-pass. service)
Denver & Rio Grande Western	1943	787	...	...	...	5.64	694	181	...	...	175	23.0	...	.34	...	...	...	...	23.0
	1942	812	...	...	...	5.22	719	173	...	...	169	21.9	...	.34	...	...	...	.38	22.0
Denver & Salt Lake	1943	1,629	...	...	...	...	1,629	268	...	...	268	39.8	...	...	...	...	...	...	39.8
	1942	1,438	...	...	...	...	1,438	266	...	...	266	41.6	...	...	...	...	...	...	41.6
Fort Worth & Denver City	1943	...	99.14	...	...	6.74	964	108	9.68	...	132	18.5	1.24	.24	...	...	.45	.13	19,9
	1942	653	82.39	...	...	6.78	906	127	9.78	...	134	21.1	1.34	.25	...	...	.45	...	21.6
Nevada Northern	1943	944	...	...	...	...	944	102	...	...	102	37.5	...	...	...	...	...	...	37.5
	1942	984	...	...	...	...	984	102	...	...	102	23.0	...	...	...	...	...	...	23.0
Northwestern Pacific	1943	...	54.05	...	...	...	643	...	10.38	...	124	...	1.42	...	...	...	...	...	16.9
	1942	...	53.92	...	...	...	642	...	10.44	...	124	...	1.50	...	...	...	.48	...	17.9
Southern Pacific Co., Pacific Lines	1943	915	48.53	...	...	4.94	455	138	8.52	...	103	11.5	.90	.27	...	...	.71	...	10.6
	1942	849	48.11	...	...	4.91	483	121	8.75	...	105	10.4	.93	.28	...	...	.63	...	11.0
Toledo, Peoria & Western	1943	1,043	...	...	...	...	1,043	118	...	...	118	...	...	...	...	...	...	...	
	1942	963	...	...	...	...	963	123	...	...	123	...	...	...	...	...	...	...	...
Union Pacific R. R.	1943	733	52.97	...	...	6.63	667	118	10.55	...	124	16.5	1.15	.25	...	...	.21	...	15.8
	1942	772	53.71	...	...	6.80	697	116	10.67	...	122	16.8	1.26	.26	...	...	.18	...	16.3
Utah Ry.	1943	1,057	...	...	...	...	1,060	222	...	...	222	...	...	...	...	...	...	...	...
	1942	940	...	...	...	...	941	226	...	...	226	...	...	...	...	...	...	...	...
Western Pacific	1943	731	51.33	...	...	4.81	375	127	8.18	...	93	5.6	.74	.30	...	...	...	...	8.5
	1942	713	54.17	...	...	4.59	462	119	8.27	...	96	4.8	.83	...	...	...	...	...	9.6
TOTAL CENTRAL WESTERN REGION	1943	816	54.81	...	8.8	5.69	671	121	8.78	...	117	17.5	.95	.25	...	...	.52	.21	14.8
	1942	822	54.38	...	8.9	5.80	689	120	8.78	...	116	17.9	1.01	.26	...	...	.50	.23	15.4
SOUTHWESTERN REGION:																			
Burlington-Rock Island	1943	...	...	...	...	...	...	...	9.08	...	108	...	1.57	...	...	...	...	.12	8.1
	1942	...	...	...	...	...	...	...	9.86	...	117	...	1.62	.21	...	...	.40	.12	5.4
Gulf Coast Lines	1943	...	73.60	27	...	4.78	797	...	7.05	34.96	84	...	1.15	...	5.4	5.6	.39	...	13.6
	1942	...	76.87	20	...	4.84	829	...	7.27	39.80	87	...	1.22	...	8.8	5.2	.14	...	14.3
International-Great Northern	1943	...	81.46	...	...	6.28	805	...	9.46	...	113	...	1.22	...	...	...	...	...	14.6
	1942	...	76.34	...	...	5.66	717	...	9.30	...	111	...	1.22	...	...	...	...	...	14.6
Kansas City Southern	1943	1,027	72.61	...	...	8.12	953	135	8.71	...	114	25.3	1.26	.27	...	...	...	...	16.8
	1942	1,009	72.54	...	...	7.89	949	137	8.59	...	113	28.8	1.37	.27	...	...	...	...	17.6
Kansas, Oklahoma & Gulf	1943	721	...	...	...	...	721	123	...	...	123	...	...	...	...	...	.55	...	6.1
	1942	629	...	...	...	...	629	115	...	...	115	...	...	...	...	...	.55	...	6.1
Louisiana & Arkansas	1943	...	76.57	...	...	9.71	873	...	8.16	...	97	...	1.20	.21	...	...	...	...	13.7
	1942	...	72.58	...	...	9.44	829	...	8.19	...	98	...	1.18	.22	...	...	...	...	13.8
Midland Valley	1943	749	...	...	...	...	749	145	...	...	145	19.0	...	...	...	...	...	...	19.0
	1942	707	...	...	...	...	707	140	...	...	140	...	...	...	...	...	...	...	...
Missouri & Arkansas	1943	...	...	...	...	...	...	205	...	...	205	35.4	...	...	...	...	.44	...	36.6
	1942	...	...	...	...	...	...	194	...	...	195	33.6	...	...	...	...	.39	...	33.4
Missouri-Kansas-Texas Lines	1943	700	56.89	...	...	...	684	306	7.38	...	88	17.0	.92	...	...	...	.36	...	10.8
	1942	703	57.31	...	...	...	688	274	7.22	...	87	7.5	.97	...	...	...	.37	...	11.4
Missouri Pacific	1943	849	71.79	...	...	5.46	780	112	7.71	...	109	18.9	.99	.35	...	...	.42	.56	15.1
	1942	839	76.61	...	...	5.60	781	112	7.69	...	110	17.6	1.08	.32	...	...	.44	.68	14.9
Oklahoma City-Ada-Atoka	1943	...	...	...	...	...	...	213	...	...	213	4.1	...	...	...	...	...	...	4.1
	1942	...	...	...	...	...	...	222	...	...	222	...	...	...	...	...	...	...	...
St. Louis-San Francisco	1943	841	53.54	...	...	7.48	779	144	9.52	...	132	19.4	1.09	...	...	...	.39	...	13.3
	1942	799	66.39	...	...	7.50	800	134	9.26	...	125	21.4	1.16	...	...	...	.39	...	14.3
St. Louis, San Francisco & Texas	1943	...	68.05	...	...	...	810	...	10.73	...	128	...	.90	...	...	...	.44	...	10.9
	1942	...	71.46	...	...	...	851	...	10.78	...	128	...	.99	...	...	...	.45	...	12.2
St. Louis Southwestern Lines	1943	917	74.05	...	...	6.67	928	310	6.90	...	85	...	1.22	...	...	...	.50	...	14.3
	1942	883	73.31	...	...	7.26	888	260	6.71	...	81	...	1.20	...	...	...	.49	...	13.8
Texas & New Orleans	1943	...	62.29	...	...	5.33	648	...	7.46	...	89	...	.78	...	...	...	.38	...	9.2
	1942	...	61.41	...	...	5.53	656	...	7.08	...	84	...	.83	...	...	...	.38	...	9.7
Texas & Pacific	1943	...	61.93	...	...	...	737	...	8.00	...	95	...	.91	...	...	...	...	...	10.8
	1942	...	61.14	...	...	...	728	...	7.76	...	92	...	.96	...	...	...	...	...	11.4
Texas-Mexican	1943	...	79.79	...	...	7.39	194	...	...	...	20	...	...	...	...	...	...	...	...
	1942	...	64.09	...	...	6.78	168	...	60.00	...	22	...	...	...	...	...	...	...	...
TOTAL SOUTHWESTERN REGION	1943	849	64.65	27	...	6.18	764	122	8.80	34.96	104	19.1	.98	.30	5.4	5.6	.40	.15	12.7
	1942	830	65.69	20	...	6.13	763	120	7.62	39.80	102	17.9	1.03	.29	8.8	5.2	.41	.13	13.1

Washington Station—Hub of Travel

Union Station is accommodating tremendously increased passenger traffic without undue inconvenience or delay

FROM 140,000 to 175,000 persons move through the Washington Union Station daily. They get on and off the more than 300 trains that move in and out of this station every day. Approximately 400,000 tickets are sold there every month, with total revenues close to three million dollars. More than 117,000 passenger cars and locomotives have been handled in this terminal in a single month. These and many other figures pertaining to this station seem almost fantastic. Increases of several hundred per cent in the various phases of this station's operation are so common as to have become practically routine now. For example, checking transactions at the baggage counter averaged 14,416 per month in 1939. They averaged 50,935 per month in 1943 and are running higher now. Meanwhile, parcels checked in the parcel room have increased nearly 300 per cent, despite the fact that one of the largest single batteries of parcel lockers in the country has been installed in the concourse.

The changes that have taken place are perhaps illustrated best by a comparison of the ticket office forces. The Washington station was considered a busy place in December, 1941, but, when the war began, the ticket selling forces totaled 31 persons while there were 26 information clerks and 17 reservation clerks. Today, the force comprises 140 ticket sellers, 124 information clerks and 174 reservation clerks.

What Has Been Done

The Washington Terminal handles passenger trains of the Baltimore & Ohio; the Chesapeake & Ohio; the Pennsylvania; the Richmond, Fredericksburg & Potomac; and the Southern—including through trains from numerous other railways which pass through the terminal over the lines mentioned. All of these trains use the Washington Terminal Railroad in getting into the station. This line has a total trackage of 52 miles. The train movements are controlled by modern interlocking signals of the color-position-light type, under the control of one main interlocking station and two subsidiary interlocking stations.

At all hours of the day and night, the waiting room and concourse are now crowded with people, but, because of the successful efforts of the station management to remain at least one jump ahead of this tidal wave of humanity, these crowds are, on the whole, good-natured and well-behaved. The efficiency with which this large segment of humanity is funneled through the station every day is ascribable to the continuing study given by the officers in charge of the station to the problems of handling people in the mass and the changes that have been made as the result of such study. One of the dramatic changes is the conversion of the formerly palatial President's waiting room into a lounge for those in the services, of whom some 5,000 daily use the facilities.

Not only has the number of passengers using the station increased almost fantastically, but present-day passengers stay longer in the station on the average than they did heretofore. Formerly, the predominant percentage of the passengers consisted of business men or tourists, few of whom lingered at the station. Today, service men and their families, war workers and casual travelers of all sorts fill the station 24 hours a day. As a result, it has been necessary to enlarge the public facilities materially. The restaurant and lunch room have been modernized and air-conditioned and their seating capacity has been increased from 232 to 310. The washrooms for men and women have been practically doubled in capacity. The barber shop has been modernized, air-conditioned and enlarged. An additional public telephone exchange has been established in the concourse with 16 booths and the number of public pay telephone stations has been increased from 15 to 45.

The normal capacity of the parcel room is 1,800 packages. To amplify the facility, an additional parcel room has been arranged in the concourse, with a capacity of 2,500 packages, while the number of self-service parcel lockers in the concourse has been increased from 508 to 1,065. A short concourse has been constructed adjacent to the parcel room to give further connection between the ticket lobby and the main concourse. A former mail distribution station at the west end of the concourse was abandoned, releasing 5,370 sq. ft. of additional space for passengers' use. Three escalators have been installed between the upper and lower train levels, to facilitate handling of passengers to and from trains using the lower level.

The entire lighting system of the station has been modernized. Fluorescent luminaries have been installed on the back of the benches in the waiting room, thus improving the reading range. The overhead lighting fixtures, installed in light galleries, have also been modernized. A public address system was also installed.

It was evident as early as 1941 that the arrangements for loading and unloading taxicabs at the station were inadequate, particularly since both operations were done at the same place. Nothing could be done to relieve the situation, however, until the city of Washington had remodeled the plaza in front of the station. This was done under the care of traffic engineers, who so co-ordinated the automobile traffic as to provide minimum interference. Under this system it became possible to separate the taxi loading and unloading operations.

Getting Passengers to and from Terminal

Under the new system, taxicabs are unloaded immediately in front of the main entrance to the station, while the loading is done at a series of platforms under cover at the west end of the station. In co-operation with the Office of Defense Transportation, and to conserve gasoline and rubber, taxicabs have been used on a group-loading basis or share-the-cab plan and, particularly after the arrival of the morning trains, separate loading locations for hotels, as distinct from other destinations, are used—the passenger calling the name of the hotel he desires and being directed to the proper cab by the taxi

starter. A busy day of unloading saw 19,745 taxis and private automobiles handled in front of the station; the peak hour recorded 2,408 autos handled—an average of 40 per minute.

Answering the Public's Questions

In December, 1941, when the station was already busier than it had been for some time, there were 17 employees in the reservation bureau, whereas today there are 174. The private branch telephone exchange has been increased from 6 switchboard positions to 13 and from 30 trunk lines to 100. The reservation bureau diagram service has been increased from 24 to 78 positions. The information service has been similarly expanded. There are now 124 information clerks, as compared to 26 in December, 1941. The information service includes a large booth in the main waiting room where a large staff of clerks is on duty 24 hours a day—one of the wartime characteristics of the Washington Terminal being that it is well patronized at all hours of the day and night. Another information booth is situated in the concourse and is intended primarily for supplying general as well as train information to those in the services.

Calls over the telephone from the outside for train information, rates, schedules, etc., are handled by special facilities provided exclusively for this service. These facilities are in operation 24 hours a day and a total of 40 telephone trunk lines are provided for the handling of such calls.

The ticket selling force has been increased from 31 employees in December, 1941, to 140 now and the entire ticket selling plan has been revised to cope with the tremendous volume of such work now necessary. The normal number of ticket windows in the terminal is 15, whereas now, during peak periods, tickets are sold at 65 locations. To speed up the sale of tickets, selected ticket windows have been designated for the handling of certain specified transactions. For example, in view of the large volume of tickets issued on government transportation requests, certain ticket windows, identified by suitable signs, handle such sales only. Other windows have been designated to handle advance Pullman reservations. A large group of windows has been set aside for the sale of coach tickets only, and other windows are for the sale of coach tickets to specified points where such sales currently run heavy. Ticket office employees designated as "floor-walkers" are assigned to duty at the various ticket selling locations for the purpose of answering inquiries of patrons and properly directing them for the purchase of their tickets. Signs identifying the various ticket selling locations are prominently displayed and in addition announcements are made over the public address system.

The tremendous increase in business has, naturally, required a large increase in force. To meet the situation in a time of manpower shortage, a special manpower committee has been established to study and act upon present and future needs. This committee has anticipated the future quite accurately since its inception, with the result that, while desired help cannot always be obtained, the officers of the Terminal have not been caught unprepared.

The Washington Terminal was among the first railroads to increase its force of women employees. Before Pearl Harbor approximately 65 women were employed, mostly in clerical and similar occupations. Because of the large number of men being inducted into the armed forces, prompt action had to be taken to recruit women, with the result that 1,260 women are now employed, not only in office assignments but in enginehouse, classification yards, baggage and mail service and track work and, as their experience increases in their respective fields, they are proving their value in performing work heretofore done by men.

New employees taken into service in the ticket office are given intensive training and instruction in the duties of the position for which they are employed, in classes conducted under the direction of thoroughly experienced ticket office employees. Attendance at these classes by new employees is required for at least two weeks. The room in which classes are conducted is equipped with facilities so that training is carried on in the final stages of instruction under conditions similar to those existing in performing the duties of reservation clerk or information clerk, except that conversations are carried on between employees themselves and not with the public.

Aid to Those in the Services

Thousands of members of the Armed Forces pass through the Terminal. As previously stated, the President's waiting room has been converted into a U. S. O. lounge. Operation of this lounge is conducted by the Washington, D. C., Travelers Aid, under the supervision of a committee of operations of which the manager of the Terminal Company is chairman. This lounge is operated 24 hours a day and is well patronized at all hours of the day and night. A large canteen is also located in the station concourse for use exclusively by those in the services. This facility is very popular with the service people, and is operated on a non-profit basis. During 1943, the canteen was patronized by 2,791,970 service people and during the same period 1,561,091 service people patronized the service men's lounge and checked their luggage, totaling 499,000 pieces, without charge.

There is the closest possible co-operation between employees of the Terminal Company, the Military Police and the Shore Patrol and every effort is made to promote the comfort and welfare of members of the armed forces who constitute the bulk of the travel passing in and out of this busy terminal—a terminal which, during the year 1943, recorded operations and revenues greater than those of 78 Class I railroads in the United States.

* * *

U. S. Army from British Combine

Italian Soldiers Clear Away Wreckage in a Railway Yard in the Civitavecchia Area, Italy, After Bombing By Allied Planes. The Main Port for Rome, Civitavecchia Was Liberated By the Allied Fifth Army, June 7.

Locomotive Servicing

(*Continued from page 367*)

tower has two delivery spouts, one on each side, to serve two tracks. A large dry sand steel storage tower is located just north of track 1. This tower was constructed from the tank of a damaged tank car, mounted vertically and supported on four steel legs with cross bracing. Scrap and second-hand columns and angles, welded in place, support the sand storage tower. Sand is delivered from the storage tower to the small delivery towers by means of compressed air. This installation does not include a sand dryer since the Rock Island uses predried sand and Ottawa (Ill.) glass sand (pulverized rock).

In addition to these improvements, a steel overhead frame and hoist was constructed over a track outside the engine house and north of the turntable. This is used for lifting the oil wells out of the locomotive tanks for cleaning and repair, or for renewal of the blocking underneath and, in some cases, for repairs to the water tank. At this point the tanks are drained of oil, which is returned to the underground storage tanks and the tanks are then steamed and lifted out, if necessary. About 11 oil wells a month are lifted to permit repair of the oil well or the water tank.

All of the improvements at this terminal were carried out without any delay to normal terminal operations, except the installation of a 115-ft. turntable to replace the 90-ft. table. This work was actually a part of a large turntable program in which one new turntable was purchased and seven turntables lengthened and changed out in succession, using the second-hand girders in each case, which were strengthened and built out on each end at Silvis, Ill. The turntable at Armourdale was a 90 ft. turntable that had been lengthened to 115 ft. at Silvis. The girders were shipped to Armourdale, where it was assembled. A new back wall, circle rail and new motors were installed. The center was good and was merely cut down to accomodate the new turntable. By careful preparation and advance planning, the turntable was installed in 12 hours, using two 160-ton wrecker cranes. This improvement has saved considerable time in spotting the large locomotives on the turntable. With the 90-ft. turntable, the large locomotives, equipped with big tanks, had only about four inches to spare on each end. In addition, after the tanks are taken off the large locomotives in the enginehouse, a switch engine is used to move the locomotives from one stall to another, whereas formerly the locomotives had to be pulled on and off the turntable with a cable.

These improvements were made under the general direction of F. W. Thompson, chief engineer, and J. E. Tiedt, engineer of water service. J. T. Fitzgerald, division engineer at Kansas City, Mo., was in charge in the field. The water cranes, fuel oil cranes and sand delivery towers were furnished by the T. W. Snow Construction Company, Chicago. All work was done by railroad forces, except the moving of the water tank, which was done by contract.

Communications . . .

New England Acquiescent to Transport Socialization?

BOSTON, MASS.

TO THE EDITOR:

In your editorial, "Yankee Shrewdness—1944 Model", in your August 19 issue, you are, I think, a little unfair in reading into our publication of C. A. A. proposals for federal participation in the financing of airports and the proposals of the House Committee on Roads for federal participation in financing postwar road-building programs in the several states, approval of those proposals by either the New England Council or "the business leadership of New England."

In both instances, our War Bulletin was performing its proper function of conveying information to its constituents in the New England business community. It did so without any expression of approval or disapproval. In one case it was reporting an address to the Council by Charles I. Stanton, Civil Aeronautics Administrator. In the other case, it was reporting action by a committee of the United States House of Representatives. In exactly similar manner, the April issue of the Bulletin published a report of the address of Howard S. Palmer, president of the New Haven Railroad, and one of our directors, delivered to the Council at its March meeting in New Haven. In neither issue did the Bulletin undertake to tell New England states and communities what they should think or do about the proposals presented.

It so happened that your editorial came to the attention of one of our directors, James M. Langley of Concord, N. H., several days before I saw it. Mr. Langley is publisher of the "Concord Daily Monitor," and also chairman of the Council's Community Development Committee, which is much concerned with matters of public expenditures. In an editorial commenting on your editorial, Mr. Langley said:

"*Railway Age* did not realize that there is a Council committee which is working on this problem of grants-in-aid to states, corporations, programs, and persons, trying to find the Yankee answer. As for the editorial policy of the 'News Letter,' it is to print news of matters important to New England, usually without the Council as such having taken any position as regards the matters reported. Within the Council, an organization with hundreds of members from the six New England states, there exist all sorts of opinions, but on the whole the body of sentiment of Council members is conservative. A majority unquestionably have a natural and instinctive disliking for federal subsidies. The problem, then, is how to get disentangled from them as the American economy is now organized."

Mr. Langley has put the matter very well, and his statement can be supplemented by voluminous material from our files should you or anyone else desire to pursue the matter further. For example, our August Bulletin publishes the address of Governor Saltonstall of Massachusetts to the Council at its June meeting, in which he most earnestly called attention to the threat to our states through the encroachment of the federal government upon state sources of revenue and the growing numbers of activities carried on within the states by federal rather than state agencies of government. At our annual New England Conference last November we had as one of our chief speakers Rep. Hatton W. Sumners of Texas, chairman of the House Judiciary Committee, and an outstanding leader in opposition to the growing powers of the federal government.

In short, neither New England nor the New England Council can be successfully charged with eagerly seeking federal subsidies or with indifference to the grave problems which they are creating. Nor can we be charged with indifference to our railroads; our meetings are open to their spokesmen and we have frequently invited their suggestions.

An Anti-Railroad Bias?

I may add that we have become quite accustomed to having our railroad friends complain first that we were unduly favorable to highway transportation and now that we are too much interested in air transportation, while our aviation friends have accused us of being "railroad dominated." The simple truth is that the New England community is interested in securing all the transportation service that it can get, with the maximum degree of competition consistent with profitable operation. We believe that the 1944 model of Yankee shrewdness is sufficient to enable New England to perceive what is to its best interest transportation-wise. We

shall refuse to be diverted by anyone from furthering that interest to the best of our ability.

In closing, may I suggest that while we will always welcome your interest in and comment on New England's economic well being, and especially the further development of its transportation facilities, we hope you will not read into reports published in our Bulletin conclusions as to policy that are not expressed therein. Would not *Railway Age* feel disturbed if its readers assumed that publication of every proposal concerning railroads appearing in your columns carried with it your approval thereof?

EDWARD E. CHASE
President, New England Council

[Our editorial did not imply that the New England Council had gone in aggressively for socialism as opposed to private enterprise—but, rather, that it gave evidence of hospitality toward proposals for a vast increase in socialism's share of the transport domain. Mr. Chase's own letter reveals that the council's policy—as reflected in its official publication—is certainly not any less friendly to the program for further transport socialization advocated by Mr. Stanton and the highway interests who are seeking huge federal appropriations in Congress, than it was to Mr. Palmer's proposals for the application of private enterprise principles in transportation.

As to the degree of friendliness of New England business interests toward the railroads—the only form of inland all-commodity transportation which is unsocialized and the only form which can and does give an area with New England's peculiarities the kind of rates it needs to attain maximum nation-wide markets and access to raw materials—a recent poll by the publication "Modern Industry" is significant. Partially to offset the competitive disadvantage of heavy subsidies to rival types of transport, and to improve their service to customers by affording a "department store" rather than a "specialty shop" transportation service, the railroads have asked that they be given permission to engage also in other forms of transportation. The "Modern Industry" poll showed its New England readers as 92 per cent opposed to giving the railroads any such "break"—i.e., more "anti-railroad" in this respect than any other section of the country. On this question the constituent bodies of the United States Chamber of Commerce voted 81 per cent in favor of giving the railroads authority to engage in other forms of transportation.

It is doubtless true that business leadership in New England has not hauled down Old Glory and frankly run up the hammer and sickle in its stead. At the same time, present day Yankee leaders of business are evidencing a tolerance if not advocacy of socialistic developments in transportation which would have dismayed their predecessors, who established New England's industrial predominance with nothing to build upon save inventive and self-reliant enterprise and thrift. They disclose meager understanding of the peculiar importance of efficient and economical railroad service to their area, and to the necessity—if they are to continue to enjoy such service—of adopting the requisite *means* to that end. It cannot be overlooked, incidentally, that the principal advocate in the Senate of that epitome of transportation communization, the St. Lawrence Seaway, is a Republican from Vermont.

Business myopism toward its need for continued efficient railroad service and toward the *means* necessary for that end is, unhappily, no sectional ailment peculiar to New England. It is, however, remarkable to observe the affliction in a somewhat aggravated form in that area—because of its unusual dependence upon railroads and because of its honorable tradition of self-reliance which, one might suppose, would make it especially alert against magnified federal "interventionism."—EDITOR]

Railroads Suffer from Poor Contact with Scholars

BIRMINGHAM 3, ALA.

TO THE EDITOR:

I have read the article in *Railway Age* of August 12 entitled "Social Scientists vs. the Railroads", and believe it "hits the nail squarely on the head." There is a glaring lack of information on the railroad side of the many controversial questions involving the carriers. Even when there is honest, scholarly inquiry, frequently only the misinformation, and not information, is available—with all the aggressiveness on the other side, particularly if political issues are involved. And, of course, a college teacher or an economist, with little or no practical business background, usually draws his picture from the publicized authorities.

(I am thinking at the moment about the Southern freight rate question, where it is scarcely too much to say that the railroads simply stand silent on the sidelines, wringing their hands.)

I do not subscribe to the off-the-record observation of an important government official to the effect that a railroad man is a genius at railroading but a "dumb cluck" if you get him 50 yards off the railroad right-of-way. However, it reveals something about the railroads that such an observation is made of them and that it draws a laugh, even if not intended in full seriousness. The railroads are, generally speaking as businesses go, activated by a rather high standard of social and economic morality—but, for lack of skill and aggressiveness in making known their positive policies, they are largely credited with inertia and disregard for the public welfare. I hope they will try to develop closer relationships with social scientists—as the author of your article suggests—since I believe sound scholarship and the public welfare, as well as the interests of the railroads, would be furthered thereby.

The public and the shipping community have profited from development by the railroads of a more cooperative attitude toward the press and shippers' organizations. Closer mutual understanding with social scientists—and frank effort by the railroads to encourage objective study of transportation problems and developments on the part of competent scholars—should prove similarly advantageous to all concerned.

A. W. VOGTLE
Vice President, DeBardeleben Coal Corp.

College Graduate Skeptical About Railroad Opportunities

TO THE EDITOR:

R. E. Dougherty's article on "The Railways and the Colleges" in the *Railway Age* of August 19, page 306, expresses concern over the fact that college graduates have not been going to the railroads in what he considers desirable numbers. I myself looked forward during my college years to a career in railroading, and concentrated there and in graduate school in transportation subjects, under professors who are apparently held in good repute by the *Railway Age*. While temporarily sidetracked into a defense industry I question rather strongly whether or not to go into railroading again.

A young man seeking a job forms rather varied opinions of his prospective employers and I must say quite frankly that after a brief period of railroading and quite a few interviews with railroad officers that the railroad industry seemed to be the least attractive of any with which I came in contact. Men of my generation are not seeking favors—we want a job with someone who is interested in what we have to offer and who consequently is attractive to us because that interest is shown.

My interviews with railroad men have convinced me of one thing—that the railroad industry seems to be little interested in the background or aspirations of a prospective employee. Oh, they always say they want men "with the kind of training you've had," but they can never say that they will expect to use it doing such-and-such a type of work, or in a certain direction. Conversations were usually ended on the note that something "could probably be found" out on the line or in the traffic department where there would be good experience.

By comparison, let me cite a few instances from other industries. Some of my classmates went with a large airline upon graduation. Within a few years most of them were airport managers with responsibility over operations, personnel, and funds that are a real challenge to the individual and a tribute to the respect with which the abilities they developed in college were put to work. None of them took a four-year course in air transportation, and none of them were originally hired to shine the planes or weed the airfield "for the experience." They were taken with the admission that they had certain ability that was to be directed to a definite purpose and a certain use.

Shortly after talking to a railroad officer who admitted the need for men although he wasn't quite sure what for, I interviewed a representative of a company that is a large user of transportation. After inquiring just what my interests were and showing curiosity in a detailed history of my training he told

me what he had to offer: a few months learning about the work of the several departments, then assignment as a staff assistant surveying and appraising the company's need for and relations to transportation. Monetarily, the offer was just about twice what I could have earned starting at the bottom on the railroad, a bottom which apparently had no steps in sight leading upward.

My own conclusion, from personal experience, is that the railroads are at the present in a poor position to compete successfully for the talents of the men who are currently leaving college. This is because they have little to offer in the way of interesting or responsible work, as compared to other employers who show interest in a man's talents because they feel good use may be made of them. The money angle is important, to be sure, but many of us feel that we can demonstrate our value more concretely by assignment to work that allows play to the judgment and responsibility that we are supposed to have acquired.

Now, a college degree is no sign that a man has a certain right to his own office or is automatically fit to "run" something. Perhaps it has become stylish to think that they "teach" you something at college. Personally, my hat is off to the man that can remember anything specific he learned at college three years after graduation. None of my class certainly left with the idea that they have been indoctrinated to do just such a thing when confronted by a certain situation in a certain place. We feel, rather, that we have gained the ability to make a decision when certain facts appear. All we ask is an opportunity to use those faculties and apparently some employers seem to have faith in them.

So far as public relations have been brought up in your pages recently you can no doubt see that this writer has not a particularly high opinion of the industry so far as contact with the employing officers is concerned.

In closing, may I forestall the inevitable comeback that you hear no matter where you go—"But our business is different." I will just repeat that the railroads will have to make a better impression on the young men if they expect to compete with other industries that are out looking for men and make no bones about the program they have mapped out for them.

JUNIOR

Carriers Ought to Give Public Facts on Competition

NORFOLK, NEBR.

TO THE EDITOR:

The statistics and editorials published in *Railway Age* are very informing, but fail to reach most of the public.

It would probably help the railroads greatly if the A. A. R. would publish such information in its advertisements. Very few people, for instance, realize that railroads carry by far the greater part of the nation's freight traffic. People are misled on this score by the advertising of the American Trucking Associations, and it would be generally helpful if they were given the facts.

R. S. ALLEN

New Book . . .

The Early History of Transportation in Oregon, by Henry Villard. Edited by Oswald Garrison Villard. 99 pages.. 10 in. by 6¼ in. Bound in cloth or paper. Published by University of Oregon Publications, Eugene, Ore. Price, cloth $2.00; paper $1.00.

After almost a quarter-century of personal participation in the creation and management of railroad and navigation enterprises on the North Pacific coast, the author of this work was impelled to prepare a formal record of the genesis and development of the transportation facilities of that region, and particularly of his own activities in that field in the years from 1874 to 1883, when he was most closely associated with events there. The material was first published serially in a Portland, Ore., newspaper in 1926, and is now made available in permanent form, some 44 years after it was written.

The author became connected with Oregon railroads in 1874, after having first come to America from Germany in 1853 to attain considerable success as a journalist and war correspondent, which experience was followed by a period of ill health during which he had returned to Germany to live. At that time he became associated with a committee representing German bondholders of the Oregon & California, which company had then completed a railroad from Portland south to the vicinity of Roseburg that was barely capable of earning one per cent on the face value of its bonds. The dominant figure in the Oregon & California was Ben Holladay, whose name was widely known throughout the West from his association with pioneer stage lines and the short-lived and unprofitable Pony Express.

Holladay is depicted by Villard as vulgar, illiterate, coarse, presumptious, mendacious, and unscrupulous—in short, "a low fellow." Nevertheless, he had succeeded in marketing about $11 million of bonds in Europe, in securing control of Oregon railroad and steamship enterprises practically without personal investment, and in so entangling the affairs of the companies concerned in these enterprises, the ownership of the land grants received by the railroad, and control of the local political situation, that the creditors of the Oregon & California, represented by Villard, found it expedient to buy him out rather than to force his withdrawal by legal proceedings, according to this version of the story.

These negotiations were concluded in 1876, and Villard assumed the management of the Oregon Steamship Co., the Oregon Central and Oregon & California railroads, and the Portland Dock & Warehouse Co. on behalf of the European creditors. The steamship line was an important factor in the Oregon-California service, and the rail lines were destined to be linked with others pushing northward in California to form the Southern Pacific's main line from the San Francisco Bay area to Portland. Soon afterward Villard, as receiver of the Kansas Pacific, emerged victorious in a financial battle with Jay Gould, then the dominant figure in the Union Pacific, and so achieved a substantial reputation as a successful manipulator of railway properties.

By this time Villard had conceived the idea of linking the Oregon railways with a transcontinental line. After efforts to come to an understanding with the Union Pacific and the Central Pacific fell through, he made a bargain with the Northern Pacific to develop its western connection along the banks of the Columbia river. In furthering this purpose, he had set up the Oregon Railway & Navigation Co., through which he acquired a virtual monopoly of traffic following the Columbia, an extremely profitable venture. Through another corporation, the Oregon Improvement Co., he obtained for a time practical control of the coastwise steamship business from Mexico to Alaska.

Outstanding among the complex financial transactions that followed was the so-called "blind pool" of 1881, by which Villard was able to obtain subscriptions of millions of dollars to still another new company, the Oregon & Transcontinental, the purpose of which was not disclosed. With the funds thus raised on faith he acquired control, later that year, of the Northern Pacific, a step he considered it necessary to take to protect his Oregon line from threatened destructive competition in the form of a parallel line on the north bank of the Columbia. But the Northern Pacific had not been built across the state of Montana, nor even located for long stretches, and a hitch developed when the government ceased accepting completed portions of the line pending settlement of a controversy over the road's right to the land granted it to encourage its construction, and this venture brought him much grief.

The account here set forth ends somewhat abruptly with the celebration, in Portland in the fall of 1883, of the opening of the Northern Pacific's through line, on which occasion the author was hailed, evidently, with unrestrained enthusiasm for bringing to this successful conclusion "the most stupendous scheme yet undertaken on the American continent." Some hint of the aftermath is supplied in an editorial note which points out that Villard "retired" later that same year as president of the Northern Pacific, the Oregon Railway & Navigation, and the Oregon & Transcontinental. In 1885 control of the Oregon & California was transferred to the Southern Pacific, and he resigned from its presidency. In 1886 the Oregon Short Line leased the Oregon Railway & Navigation, which thus passed into the Union Pacific group of roads. In 1887 Villard regained a place on the Northern Pacific board, and from that time until the company failed in 1893 he was influential in its affairs. In 1888 he resumed control of the Oregon & Transcontinental; this he soon reorganized to form the North American Company, which later became an outstanding public utility holding company.

Railroads-in-War News

Urgent O.D.T. Pleas on Labor Day Travel

Two statements tell how load on roads is becoming increasingly heavy

Prospective Labor Day train and intercity bus travelers "had better cancel their plans unless their trips are directly connected with the war," Director Johnson of the Office of Defense Transportation said in a pre-holiday statement. "Only actual service with the armed forces or business directly connected with the prosecution of the war," he added, "justifies taking up space on trains at this time, since the railroads of the country, taken all together, have now reached the full limit of their capacity to carry passengers. Month after month, trains have been carrying more passengers than they did even in 1943."

Buses Are Decreasing—A few days after issuing the foregoing, Director Johnson followed it up with another statement designed to support his "urgent pleas" that civilians keep off trains and intercity buses this week-end. "The nation's railroad system now is operating at the utmost limit of passenger carrying capacity," the statement said. "Intercity buses likewise are loaded to capacity and many buses are laid up for lack of tires. Military traffic in general is not decreasing; furlough traffic is increasing; casualty movements are compelling civilians to surrender reserved and purchased accommodations. Civilian war-connected travel is not decreasing. The coming shift of the main war effort from the Atlantic to the Pacific theater is already creating difficult transportation problems and is throwing a heavier load upon already overburdened lines."

"These facts," the statement continued, "should make it clear why anyone attempting to travel under present conditions will find the trains jammed or may be left standing on the station platform when the trains leave." It went on to give figures on the wartime growth of passenger travel, pointing out that the 1943 passenger-miles totaled almost 88 billion, or an increase of 269 per cent above the 1940 total. Data on passenger car-miles per train mile "indicate that the railroads have tried to utilize equipment more efficiently by running longer trains"; but "they cannot run more cars," for the additional cars "simply do not exist."

229 Fewer Cars—In the latter connection it is pointed out that the 28,214 Pullmans and coaches available in 1940 decreased to 27,985 this year. The latter is slightly higher than the totals in the past

(*Continued on page 379*)

Alaska Railroad Acquires Diesels

Overcomes problem of tunnel ventilation on branch-line recently opened

Alco-G.E. Diesel road switchers have been placed in service on the line of the Alaska Railroad extending from Anchorage to Whittier, a new deep water terminus at the head of Prince William Sound. This port is so new that it does not appear on any maps of the territory which are now available. Its construction was primarily for reasons of military security because the port of Seward is much more exposed to attack. As the result, however, of the construction of the railroad branch line rates, time and distance for shipments moving to interior Alaskan towns have been reduced. Total distance to interior points was reduced about 52 miles.

The division over which the Diesels are operating is 62.5 miles in length, all but 14 miles of which is a part of the main line extending from Seward to Anchorage. The 14-mile cutoff between Whittier and Portage includes two tunnels of 13,090 and 4,910 ft. in length, respectively. Selection of Diesel locomotives for operation over this cut-learned that, without the installation of

Diesel Road Switchers Operating in Tandem Haul Trains Over the Whittier-Anchorage Line of the Alaska Railroad. Here They are Entering the Portage Tunnel Northbound from Whittier

very expensive forced ventilating systems, steam-powered train headway through the longer tunnel would have to be about two hours to allow excessive concentrations of gases to dissipate themselves.

Two of the 1,000-hp. road switchers have been installed so far and they are run as a pair handling trains of up to 2,250 tons. Train length with steam power was limited to about 25 cars; the Diesels handle about 50. Col. Otto F. Ohlson, general manager of the road, which has remained in civilian hands throughout the war, has stated that, in addition to their advantages for use through tunnels, "The operating costs on the Diesels will be less than steam engines and the trains between Anchorage and Whittier will make the run with no stops for water and for cleaning the firebox, necessary when steam locomotives were used."

Although the railroad has been managed by civilians during the war, the manpower situation made it necessary for the War Department to lend assistance by sending the 714th Railway Operating Battalion to fill out the maintenance and operating forces required in the handling of the greatly increased war-time traffic load of the road.

McIntyre Is a Brigadier

Colonel Andrew F. McIntyre, chief of the Rail Division of the Transportation Corps, Army Service Forces, has been promoted to brigadier general, with headquarters as heretofore at Washington, D. C. A native of Canandaigua, N. Y., General McIntyre was born on April 4, 1892. His first job was that of telegraph operator with the Pennsylvania at Elmira, N. Y., after his graduation from Canandaigua Academy in 1909. Step by step, he rose from chief clerk in 1912 to superintendent of passenger transportation in Philadelphia in 1940.

During World War I, General McIntyre, then a train dispatcher in Elmira, served with the special troop movements division of the Pennsylvania, supervising the operation of troop and equipment trains from the Niagara frontier and northern New York to points east and south. In 1926 he became general yardmaster in Renova, Pa., and from there went to Williamsport, Pa., to supervise train service. He was trainmaster in Cape Charles, Va., in 1929, and Terre Haute, Ind., in 1934 before promotion to superintendent of freight transportation at Philadelphia in 1935. He served on the Rail Contact Committee of Atlantic States Shippers' Advisory Board from 1935 to 1940.

On January 20, 1942, General McIntyre entered military service as a lieutenant colonel from the Reserve Corps of Engineers and was assigned to the War Department General Staff in the Transportation branch of Supply. He became chief of the Movements Division, Transportation Service, in May, 1943, and deputy director of operations of the new Transportation Corps in January, 1943. In November of that same year he became chief of the Rail Division, Office of the Chief of Transportation, retaining for a time his duties as deputy director of operations.

General McIntyre was promoted to full colonel in July, 1942.

When General McIntyre was named chief of the Rail Division, Office of the Chief of Transportation, he succeeded another P. R. R. alumnus, Colonel J. A. Appleton, formerly general manager of the P. R. R.'s New York zone. Colonel Appleton was relieved as chief of the Transportation Corps' Rail Division when he was ordered to India to set up the Military Railway Service for the China-Burma-India Theater of Operations. Upon completion of that assignment, he was ordered to the European Theater of Operations, where he is now serving in the Supreme Headquarters, American Expeditionary Force.

U. S. Signal Corps Photo

Brig. Gen. Andrew F. McIntyre

Urgent O.D.T. Pleas on Labor Day Travel

(Continued from page 378)

three years, because the railroads have brought in "obsolete or run-down equipment." "Moreover," the statement continued, "half of the Pullman cars and a third of the day coaches are in use for organized troop movements, which in groups of 40 or more now total about 700,000 soldiers a month, with an additional 200,000 Navy personnel, plus great numbers traveling in smaller groups." And furlough and casual travel of members of the armed forces "is of similar proportions."

Added to this is the railroads' job of handling war prisoners, estimated to have totaled 200,000; and the casualties returning from Europe. The latter have been numbering about 9,000 a month, while about 4,000 wounded men from overseas travel monthly on furlough. Many of the wounded may be transferred several times from one hospital to another for special treatment or convalescence.

Travel by Wounded Rises—"All in all," the O.D.T. added, "the various rail movements of sick or wounded men from overseas with their attendants might total 23,000 a month, according to estimates of the Office of the Surgeon General of the Army. Also, with approximately 4,000,000 men in training in this country, some 20,000 will need rail transportation each month to or from hospitals or on sick-leave furloughs. This makes a total of about 40,000 sick, wounded or disabled men a month occupying space on trains."

With respect to the impact on the railroads of the shift of military activity from Europe to the Pacific, the statement said that the westward movement of troops and war materials "is requiring new routings of traffic and many additions to trackage and various facilities. There are long stretches of single track in the west, which must now haul loads comparable to those that have been carried on the network of double and four-track railroads serving the many ports of the eastern seaboard. The western roads are now facing their hardest wartime problem."

Fare Cuts for Military Personnel Approved by House

The House of Representatives on August 30 passed and sent to the Senate H.R.5196, the bill introduced by Chairman Lea of the committee on interstate and foreign commerce to clarify section 22 of the Interstate Commerce Act so as to remove any doubt as to the authority of common carriers to grant reduced rates to personnel of the armed services while on furlough or for a period of 30 days following their discharge. Under the provisions of the bill, the reduced fares would have to be published in tariffs filed in accordance with section 6.

More Government Cooperation on "Don't Travel" Drive

Sixteen additional government departments and agencies have complied with Office of Defense Transportation requests that they take active measures to restrain their officials and employees from attendance at, or participation in, conventions requiring intercity travel, the O. D. T. announced this week. Among the new cooperators is the Interstate Commerce Commission.

In his latest appeal to the government agencies, O. D. T. Director Johnson said that in many cases the attendance of government officials "provides the principal excuse for calling the convention."

B. & O. "Community" Campaign in Newspapers Is Cited

The Baltimore & Ohio's "community advertising" in newspapers, which has been noted from time to time in *Railway Age*, has been selected as one of 10 outstanding compaigns of its kind by the Bureau of Advertising, American Newspaper Publishers Association. Thus cited, it has been included in "Plant-City Advertising: Why Industry Needs It . . . How You Can Use It," a 76-page booklet on public relations advertising published by this bureau.

Purpose of the B. & O. campaign has been to emphasize the value of B. & O. to communities it served, suggest what would happen if a community no longer had available a first-class rail transportation service and, create a public sentiment favorable to the railroads. Their advertisements bore such themes as: "Don't take your railroad for granted," "Always there when you need it," and "Imagine your town without it."

GENERAL NEWS

Anti-Railroad Suits Won't Help Make Jobs

Whittemore warns that vigorous private business is needed to re-employ vets

Calling attention to the reliance which returning soldiers must place on private industry as a source of peacetime jobs, Laurence F. Whittemore, assistant to president of the Boston & Maine, has observed that the current attempt of the Justice Department to "disrupt, discredit and break down" such industry—especially the railroads—is scarcely likely to foster its job-giving power. Mr. Whittemore presented his analysis of the current "anti-trust" onslaught against the railroads in a speech at Portsmouth, N. H., on August 25.

"It takes away nothing from the credit and gratitude which we owe to the fighting forces," said Mr. Whittemore, "to say that without private industry and privately owned transportation, they could not have achieved the results which are so gratifying to all of us. If the returned veteran is to find employment he must look to industry and transportation for his opportunity in most cases. Too often in these later years government seems intent on breaking down private enterprise on which it loudly calls for help.

Accepted Practice Attacked—"A situation exists in the railroad industry which if it were not so serious would seem ridiculous and impossible. Certain agencies of the government charged with the successful prosecution of the war praise the railroads for the great work which they have done and are doing in meeting the situation. On the other hand, the Department of Justice in its over-zealousness to enforce the Sherman Anti-trust Laws finds reprehensible certain practices including rate-making, which have been carried on in some instances by the railroads for a half century with the full knowledge and satisfaction of all concerned and with the consent and approval of the government's own Interstate Commerce Commission.

"The coordination and cooperation among the nation's railroads, working together through their various associations, has given America the finest transportation system the world has ever known. That system, privately owned and operated, has withstood the rigors of a long depression and come through to meet its supreme test in a manner gratifying to every informed person. Yet, in the midst of this performance, a department of the government takes occasion to use its great powers to attack such cooperation and coordination.

"The efforts of the Department of Justice to disrupt, discredit and break down the privately owned and privately managed, unsubsidized railroad system of the country, perhaps for the benefit of other types of transportation, heavily subsidized, is clear proof of a dangerous tendency toward the discouragement and discredit of private enterprise, made at a time when every effort is being bent toward the successful prosecution of the war effort.

"If private enterprise is able to offer jobs to those who need them, it must find means of earning a fair return on the necessary capital invested and must continually attract new capital to replace that withdrawn.

New England Gets Poor Subsidy Deal—"Many sections of the country, and to some extent all sections of this country, have come to look to the federal government for subsidy in almost every walk of life. A paternalistic system where everyone looks to the central government for everything is not the system which has built American enterprise. We here in New England have been less dependent on governmental expenditures than the inhabitants of most sections of the country. As a matter of fact, in spite of our great contributions to the federal treasury, we have been shabbily used compared to the south and the west.

"New England cannot win in the race for federal subsidy. If we cannot win in that race, we should stay out of it—be self-reliant once again and lead the rest of the country back into a sensible economy of thrift and independence.

"All New England must realize that the competition for the location of industry is going to be keener in the post-war world than it has ever been before. If private enterprise in New England is able to meet the challenge of post-war employment as against post-war relief payments to returned veterans, it must take aggressive measures to improve the chances of its industry to do business; to give employment and to earn a reasonable return on capital."

New Chief of U. S. Railway Mission to Mexico

Elliott V. Vandercook has been appointed chief of the United States Railway Mission to Mexico, succeeding O. M. Stevens, who resigned effective September 1 to resume his duties as president of the American Refrigerator Transit Company. Mr. Stevens has headed the Mission since it was created in November, 1942, under the auspices of the Office of the Coordinator of Inter-American Affairs.

Mr. Vandercook, who was associated with the Southern Pacific and its affiliates for 24 years, has been with Coordinator's office since 1943, when he became chief of its Railway Mission to Ecuador. He has also served as railroad consultant to Columbia.

Would Cut Ex-Barge Grain Proportionals

But finds no justification for making them as low as ex-rail rates

Making his proposed report on further hearing in the I. & S. No. 4718 proceeding involving proportional or reshipping rates on grain from Chicago, Examiner Burton Fuller has recommended that the Interstate Commerce Commission prescribe, for ex-barge grain moving to Official Territory, proportional rates lower than the local rates which the suspended schedules would reinstate, but higher than the proportionals on ex-rail and ex-lake grain.

Denounced by Barge Partisans—This is the proceeding which reached the Supreme Court after the commission's previous report had upheld as just and reasonable the suspended tariffs which propose to limit the outbound proportionals to grain arriving at Chicago by rail or lake vessel. The Supreme Court's decision, noted in *Railway Age* of June 19, 1943, page 1235, upheld the commission; and it was denounced in the Senate as a ruling which would "destroy the great bulk of the grain movement on our inland waterways." (See *Railway Age* of July 10, 1943, page 68.)

Meanwhile the commission's decision had held out some hope to the protestants when it suggested that "in a proper proceeding" it might prescribe "proportional rates on the ex-barge traffic lower than the local rates," or "joint barge-rail rates lower than the combination of the barge rates to the gateway plus the local rates beyond." Petitions for reopening came promptly, and the commission's favorable action on them brought the further hearing out of which has come Examiner Fuller's report.

Decision Will Set Precedents—The examiner viewed the proceeding as "important not only as to the particular traffic under consideration but also insofar as it may provide administrative standards which may be used as guides in fitting barge transportation into the general rate structure, particularly on grain and grain products, under the governing satutory provisions, in fairness to all concerned, and in the public interest generally." Thus he discussed in some detail the grain-rate adjustments involved, coming to the conclusion that the rail carriers "cannot afford to maintain an all-rail structure based on the rate-break principle, with outbound proportionals based on average conditions surrounding all-rail transportation, if they are required to maintain the same outbound

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Pullman Proposes New Postwar Diner

Club-like grouping of seats designed to speed-up service

Plans for a postwar railway dining car embodying diagonal seating and possessing the "atmosphere and appointments of a fashionable club" have been prepared by the Pullman-Standard Car Manufacturing Company. The outstanding feature of the car is its floor plan which is arranged to accelerate service, to eliminate interruptions caused by arrivals and departures at the tables, and to enable waiters to step to the side when serving so that aisles are free at all times. Other innovations include vibrationless tables, spot-ray illumination, linen storage at each table and intercar telephone communication.

Tables, which have a capacity for 42 persons, are placed diagonally and seats are set at a 45 deg. angle to the side of the car instead of at right angles to it as in ordinary diners.

Both two and four capacity tables are included, the former to provide privacy for a party of two and remove the awkwardness and self-consciousness of being seated with strangers at a table of four. Tables serving four persons are square but have the same area as rectangular tables in other diners. Two-place tables are triangular. For safety, all corners and edges are rounded.

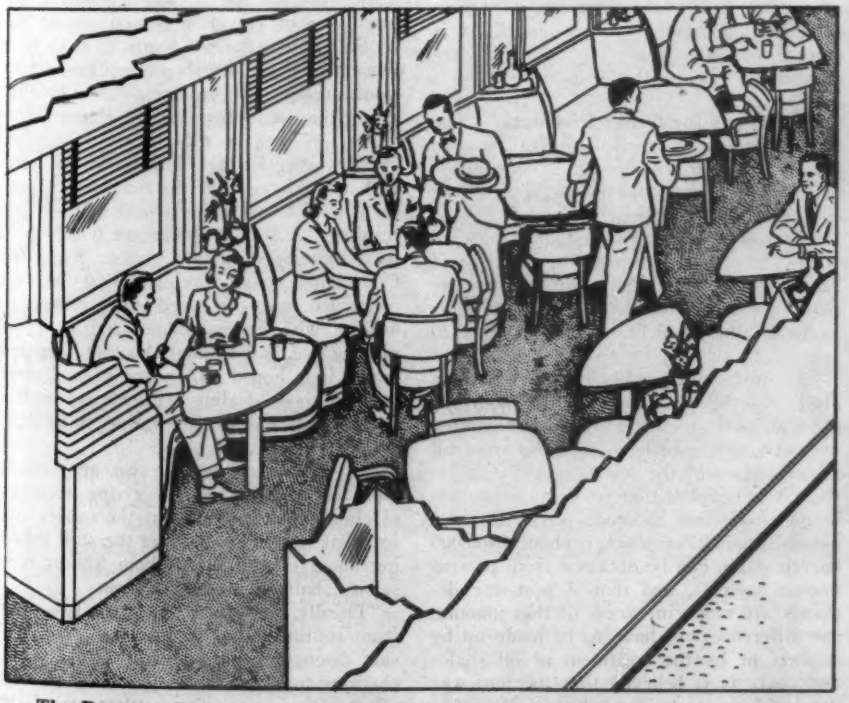
"One of the greatest benefits accruing to the traveler from the angular seating arrangement," according to Ellis W. Test, assistant to the president in charge of engineering and research, "will be unobstructed movement. Each person will slip into his seat or leave the table without disturbing his neighbor. Everyone will have a side of the table to himself and enjoy a normal conversational position instead of knocking elbows as at ordinary diner tables. At the same time each one will view the passing scene without even turning his head. The diagonal arrangement will permit waiters to step between the tables when serving, and they will serve from the side instead of reaching over the person occupying the aisle seat as is necessary in the old diners.

"One of the reasons service will be expedited in its new diners, is that changes of linen are to be stored in compartments at each table. They will be reached without disturbing passengers at the tables. An improved table setting will result from keeping water bottles, creamers, sugar containers and menus on triangular shelves along the wall at the juncture of the diagonal seats.

"The waiter will supply these utensils when serving each table and immediately return them to the shelf. This will leave a maximum table space for the diners and make for quick changes of linen."

"Black Gold" Schedule Improved

Joint operation of the "Black Gold," of the St. Louis-San Francisco and the Missouri-Kansas-Texas, between Tulsa, Okla., and Dallas, Tex., and Ft. Worth, will be discontinued on August 26 when the Frisco operates the train exclusively on a new schedule. The train will leave Tulsa at 10:30 p. m. instead of 11 p. m., and will arrive in Dallas at 7 a. m. instead of 10:05 a. m., and Ft. Worth at 8:48 a. m. instead of 10 a. m. Returning, it will leave Dallas at 11 p. m. instead of 9:45 p. m. and Ft. Worth at 9:05 p. m. instead of 9:50 p. m. and will arrive in Tulsa at 7:30 a. m. instead of 8:10 a. m. In addition to sleeping cars, the train will carry air-conditioned chair cars and a through lounge diner.



The Postwar Diner Has a Seating Capacity of 42 Persons Compared with 48 in the Ordinary Diner

New Pipe Lines May Take Much Business

Might cut rail revenues by $75 million a year, says A. A. R. report

There may be economic justification for the construction of approximately 3,400 miles of additional pipe lines for the transportation of gasoline, kerosene, and fuel oil, which moved by rail in 1940, and this would mean a loss of "perhaps 75 million dollars per year" in rail revenue, according to the report of the Subcommittee on Pipe Line Transport of the Railroad Committee for the Study of Transportation. The report is the latest to come out of the research program sponsored by the Association of American Railroads and operating under the direction of A. A. R. Vice-President R. V. Fletcher.

Should Study Rates—The foregoing finding is based "on pre-war conditions and does not take into account the effect of the various federal pipe line projects, built or yet to be built as war measures, on either the rail movement or the possible future construction of pipe lines." In another place, the report notes that the "chief problem" of the railroads with respect to petroleum-products business is "to retain—and regain if possible—the traffic in gasoline and related products." And in that connection there is a recommendation that the Subcommittee on Traffic "should study and make report on what, if anything, should be done to the rail rate structure in the various rate districts and in the improvement of rail services to prevent further erosion in rail transportation of petroleum products and to possibly add to the volume which was being handled by the rails in the period just prior to the outbreak of the war."

Meanwhile, it is also recommended that the railroads should not now enter the field of pipe line transportation, but that they might well consider such a venture if the oil companies should be required to divorce transportation operations from production, processing and marketing operations. The principal reason for this conclusion is the fact that "no independent transportation agency could give as satisfactory service to the oil companies as they now secure from pipe lines which they own and control."

Should Obtain Certificates—A third recommendation calls for federal legislation requiring interstate common carriers by pipe line to obtain certificates of public convenience and necessity from the Interstate Commerce Commission, before new pipe lines are constructed or extensions are built or existing service is abandoned. The certificate provisions applicable to rail, motor, and water carriers, the report says, result "in a considerable measure of effective regulation of competitive conditions among these forms of transportation," and "no conceivable reason exists why the same conditions should not apply with respect to the construction and operation of petroleum pipe lines."

On the matter of divorcing pipe line ownership and operation from petroleum

production, processing and marketing, the subcommittee sets up no definite recommendation, but it does suggest that the reasons for applying the "commodities clause," rule to the railroads "exist with equal force with respect to the pipe line transportation of petroleum"—if the various forms of transportation are to be regulated on a basis of equality. It cited the *Pipe Line Case*, 234 U. S. 548, "where, in sustaining Congressional classification of pipe lines as common carriers, the Supreme Court pointed to the evils inherent in combining production, transportation, and marketing under common ownership and control."

Railroads Could Enter the Field—Dealing further with the question of railroad entry into the pipe line field, the report found that the only present obstacles would be those which might be found in individual railroad charters or in the tenure provisions of right-of-way grants. The Interstate Commerce Act "does not forbid railroads to operate pipe lines," and, with no certificate of convenience and necessity required, the approval of such operation by the I. C. C. "would not be necessary assuming there would be involved no financial transactions subject to commission scrutiny." On the other hand, if the charter and land-tenure difficulties should be found to be substantial, it is suggested that the most feasible way to clear them up might be an act of Congress—"probably an amendment to the Interstate Commerce Act, giving railroads power to engage in such business and authorizing use of their rights of way for that purpose."

In making its estimate that new pipe lines for which there may be economic justification could cut railroad revenues $75,000,000 a year, the subommittee noted that the traffic diverted would bring the pipe lines only $47,000,000 of additional revenue. This is because of the lower pipe line rates. "Generally speaking," the report says, "rail rates average from 1.6 to 4 times the pipe line rates when the movements are entirely by rail or by pipe line, respectively. When movements are by pipe line from a refinery to an outlet, thence transportation beyond by rail, water or truck, the disparity between the all-rail rate and the combination pipe line-rail, water or truck rate decreases as the distance increases beyond the pipe line outlet to destinations."

In the report's review of rates on petroleum products, mention is made of the multiple-car rates sought by the complainants in the Petroleum Rail Shippers Case, decided by the I. C. C. March 11, 1941, in a report which refused to prescribe the multiple-car rates, but suggested that the railroads "give more study to the wisdom of establishing such services and rates." It is also pointed out that in *Reduced Pipe Line Rates and Gathering Charges*, 243 I. C. C. 115, the commission found that pipe lines had been requiring minimum tenders as high as 100,000 barrels, and that the commission's order in the proceeding provided that 10,000 barrels should be the largest minimum shipment any pipe line could require.

Rates Based on 50-Carload Lots—On the basis of 200 barrels to a tank carload, the subcommittee calculated that a minimum quantity of 10,000 barrels would be equivalent to 50 carloads, and 100,000 barrels would be equivalent to 500 carloads.

Construction costs, including pumping stations, of crude petroleum pipe lines are found to range from $9,000 a mile for a 6 in. diameter pipe to $60,000 per mile for 24 in. diameter. The corresponding figures for gasoline pipe lines are $10,000 for 6 in. diameter and $65,000 for 24 in. diameter. The average operating cost of crude petroleum trunk lines ("based on a limited mileage") in 1941 was 1.2 mills per ton-mile, and of gasoline trunk lines 3.2 mills.

Because the production, transportation and consumption of petroleum and its products have been influenced by the war, the report contains no analysis of conditions after 1941. With respect to the movement of crude petroleum products in normal times, it points out that a "relatively negligible amount" is handled by rail—about three per cent of total receipts at refineries for the five-year period 1937 to 1941. Pipe lines handled an average of 73 per cent, and the remaining 24 per cent was transported in tankers.

Meanwhile, the railroads handled a large proportion of refined products, but they lost considerable ground between 1931 and 1941. "In 1931," the report says, "railroads originated approximately 76.5 per cent of the total consumption of gasoline and kerosene, and regulated pipe lines only 3.6 per cent; the remainder of 19.9 per cent was handled by unregulated pipe lines and other forms of transportation. By 1941, the pipe lines' proportion increased to 11.6 per cent (for regulated lines only), while the railroads' proportion decreased to 39.4 per cent of total consumption. . . . In 1928 pipe line revenue (regulated lines) from the transportation of refined oils was 0.11 per cent of rail transportation revenue from the same products while in 1941 that percentage increased to 18.91 per cent. In 1928 rail revenue from the transportation of refined oils was $297,972,083, while in 1941 the revenue from these same commodities was $184,687,350 or a decrease of 38 per cent." It is pointed out later that rate reductions accounted for much of this drop in revenue.

Pipe Lines for Other Products?—The subcommittee also reached conclusions with respect to the future supply and demand for petroleum products, and the use of pipe lines for transporting other materials. In the former connection, it was found that reserves of crude petroleum in the United States should be adequate to meet post-war requirements—defined as those of 1941, plus moderate annual increases—for at least 20 years.

"As dimunition in liquid reserves takes place, it is believed that practical and economical methods will have been perfected for extracting petroleum products from oil shales and coal," the report goes on. "Further, it is believed that no great expansion in the production of crude petroleum over present production, which is about 4,400,000 barrels daily, can be obtained from present known reserves, and that if post-war demands are much in excess of that amount, the difference will have to be made up by imports or by the treatment of oil shales and coal. It is believed that the post-war demand for petroleum products will, within several years after the conclusion of hostilities, return to the pre-war (1941) demand; a gradual increase in demand can be expected yearly thereafter."

From information now available, it appears to the subcommittee that the long-distance transporation of commodities such as coal, cement, etc., by pipe line "is not practical or economically feasible at the present time." In this connection the report adds that "whenever petroleum pipe lines no longer are used to capacity for the transportation of petroleum or its products, it may be practical and economical then to convert some of the lines which otherwise would be useless."

Members of the subcommittee which submitted the report are: Chairman W. G. Vollmer, senior vice-president, Missouri Pacific; Chester K. Smith, research engineer, Western Association of Railway Executives; T. L. Bothwell, general freight traffic manager, Atchison, Topeka & Santa Fe; R. J. Brown, assistant vice-president, Southern; R. H. Miller, freight traffic manager, Pennsylvania; J. C. McGohan, general freight agent, Baltimore & Ohio; E. Rigg, assistant general freight traffic manager, Chicago, Rock Island & Pacific; J. L. Sheppard, freight traffic manager, Illinois Central; E. L. Whitney, assistant freight traffic manager, New York Central. Also, the late B. H. Stanage, former assistant chief traffic officer of the St. Louis-San Francisco, was a member until the time of his death on February 4.

New Zealand Railways Institute Claim Prevention Activities

Claim prevention activities, patterned after those of the railroads of the United States, have been instituted by the New Zealand Government Railways. In describing these activities, Ivan Thomas, information officer, said: "Until last year the claims side of railway working had been somewhat neglected, especially prevention work. We are not as closely bound in our conditions of carriage as you are in the U. S. A. and attention seems to have been concentrated on devising conditions which would relieve the railways from liability rather than on preventing the claims themselves.

"However, a start was made last year with a conference of district officers handling claims and quite a deal of good has resulted. A second conference will be held in the course of a few weeks. From the first conference it was clear that the men concerned were in need of guidance in dealing with claims lodged and as a beginning we had a small booklet prepared which it is hoped will prove of assistance both to those dealing with claims in district offices and to the station staffs generally.

"As a second measure we are issuing monthly a short bulletin giving statistics of claims and pointing out the causes—we feel that if we can only get the staff thinking about claims, make them 'claims conscious,' half the battle is won.

"Thirdly, we have released two men from routine duties to travel the countryside discussing claims with station staffs, checking up on station practices as they affect claims, arranging settlements of the more important claims by personal contact,

and handling the salvage in cases of derailments. These men have done excellent work and it is proposed to appoint a third in the near future.

"We are experimenting too with new statistics based on a form somewhat similar to that used by yourselves. Since the outbreak of war our claims payments have more than doubled and the ratio of claims payments to revenue has risen from 0.125 for the year ended 1939 to 0.255 for 1943. A disturbing feature is the proportion of claims for freight stolen, pilfered and missing. From the statistics we had, the proportion for 1939 was approximately 20 per cent while for six months of this year the proportion is 45 per cent.

"Our claims problems here are of course on a very much smaller scale than are yours but our main trouble lies in the fact that the great bulk of our traffic is l.c.l. and much of it is carried in open wagons—the length of haul is short and transhippings are frequent due to the small wagon loads."

I. C. C. Accounting Orders

Accrued depreciation and amortization must be shown on the asset side of railroad balance sheets as deductions from the property investment account, with only a net figure for investment "less recorded depreciation and amortization" extended to enter the total assets, according to an Interstate Commerce Commission order of August 21. The order prescribes various changes and rearrangements of accounts to bring about the foregoing, including the elimination of the depreciation and amortization accounts from the balance sheet's liability side.

Another order, dated August 11, requires the transfer to the depreciation accounts of all unrecorded depreciation on property acquired as an operating entity since January 1, 1938. The transfer would be made from the "acquisition adjustment" account which now carries the difference between the cost of the acquired property and its estimated original value as found by the Bureau of Valuation. In discussions preceding issuance of these orders, the railroads took the position that the changes ordered were undesirable.

Bans Residual Oil Shipments from West

A ban on the shipment of residual (industrial) fuel oil eastward from West Coast states was announced August 25 by the Petroleum Administration for War. It came in Petroleum Administrative Order 23 which becomes effective September 15.

The new order prohibits the delivery of residual fuel oil, including railroad and industrial fuel, bunker grade fuel, or any crude oil used as residual fuel from any point within the area embraced by the States of Washington, Oregon, California, Nevada, Arizona, and 20 counties in Idaho to any other point in the continental United States. It is not applicable to normal tank truck movements in effect during the six-month period immediately preceding issuance of the order.

The announcement explained that the purpose of the order is to conserve fuel oil for military uses along the West Coast and in the Pacific theatre and, at the same time, to bring about a more efficient use of the refining and producing facilities of Wyoming and Montana. Previously, a portion of the fuel oil consumed in the Rocky Mountain area was brought in from the West Coast. The improved conditions in Montana and Wyoming are expected to make available enough fuel oil to supply local needs.

Finds Excessive Speed Caused July 3 Derailment of "Chief"

The July 3 derailment of the Atchison, Topeka & Santa Fe "Chief" near Maine, Ariz., "was caused by excessive speed on a curve, as a result of the failure of the railroad to provide adequate safeguards to prevent excessive speed on curve," according to a report on an investigation conducted by the Interstate Commerce Commission under the supervision of Chairman Patterson. The accident, noted in the *Railway Age* of July 8, page 95, resulted in the death of the fireman and three passengers, and the injury of 113 passengers, two dining-car employees, eight Pullman employees, and three train-service employees.

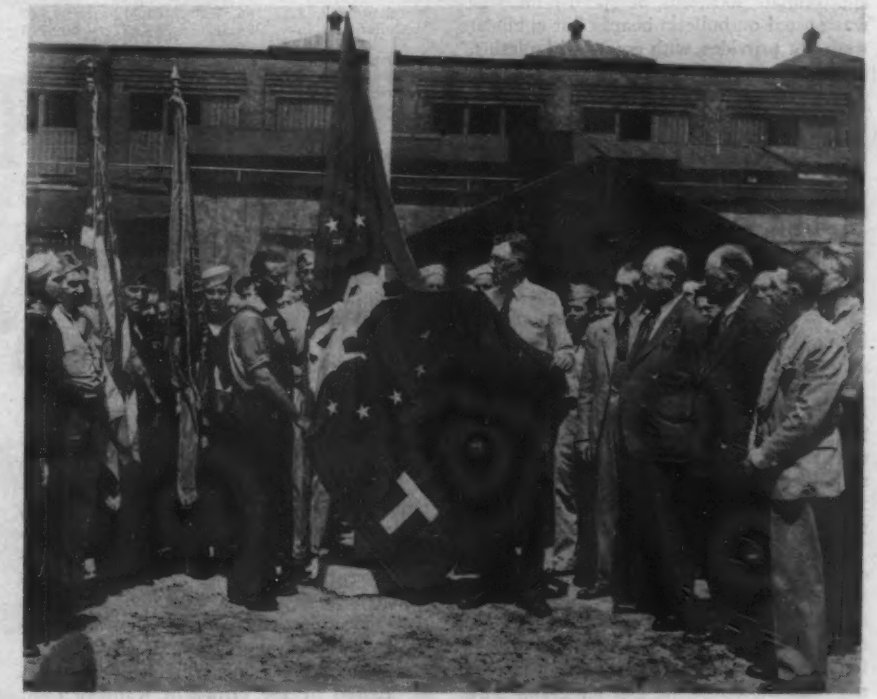
A 4 Deg. 45 Min. Curve—The "Chief," Train No. 19, was westbound at the time of the derailment which occurred about 11:33 p. m. on the westward main track, 78.38 miles west of Winslow, Ariz., and 1.78 miles west of the station at Maine. Approaching the point of the accident on a descending grade varying between 0.4 per cent and 1.86 per cent, the train passed in succession over a tangent 1,242 feet long, a 0 deg. 40 min. curve to the right 500 feet, a tangent 607 feet long, and a 4 deg. 45 min. curve to the left 857 feet to the point of the derailment. The latter curve extends another 149 feet.

On the curve the track structure consisted of 131-lb. rail, laid new in May, 1944, on hardwood treated ties. It was fully tieplated, double-spiked, provided with rail anchors, and ballasted with volcanic cinders to a depth of 10 in. The maximum superelevation was 5¼ in. and the gage varied between 4 ft. 8⅜ in. and 4 ft. 8⅝ in. At the point of the accident the superelevation was 2⅜ in. and the gage was 4 ft. 8½ in.

The maximum authorized speed on the curve was 55 m.p.h.; and special time-table rules provide for permanent slow-boards located not less than 2,500 feet in advance of points where speed of trains must be permanently reduced. Such a speed limit sign was located 2,938 feet east of the east end of the curve and 10.8 feet south of the south rail of the westward track. Approximate locations of these signs are indicated in bulletin instructions. On the tangent track the maximum authorized speed was 90 m.p.h.

Estimated Speed 70 m.p.h.—No. 19 consisted of a steam locomotive of the 4-8-4 type and 14 cars, made up in the following order: Three mail cars, one club-baggage car, four Pullman sleeping cars, one lounge car, one dining car, and four Pullman sleeping cars. It was 37 minutes late when it passed Bellemont, six miles east of Maine and the last open office; and "while it was moving at an estimated speed

* * *



Treasury "Ts" for Two New Haven Shops at Readville, Mass.

1500 employees of the railroad's locomotive shops and car shops, 98 per cent of whom had invested more than 10 per cent of their salaries in U. S. war bonds, recently received "T" banners from Walter H. S. O'Brien of the War Finance Division Railroad Unit, Washington. Taking part in the Locomotive shop's out-of-door flag-raising ceremonies were: Pipe-fitter Alfred E. Smith, president, Sheet Metal Workers Local No. 200 at left of flag; and John Donovan, locomotive shops general foreman, holding right corner of flag; Chairman Harry E. Norton of railroad's War Bond Committee; Mr. O'Brien; Superintendent Francis Whitaker of Quincy, who received the flag on behalf of employees, and Associate Director Stewart B. Johnston of the Massachusetts War Finance Committee.

in excess of 70 m.p.h. the engine and the first 12 cars were derailed."

The engine and tender stopped on their right sides, across the main tracks with the front end of the engine about 585 feet west of the point of derailment. The 12 derailed cars stopped practically unright in various positions, with the front end of the first car about 200 feet west of the locomotive. None of the cars telescoped, but three were considered damaged "beyond repair," while six were "badly damaged." Thirteen of the 14 cars were of streamlined design, five being of stainless-steel construction and eight of alloy-steel. The remaining car "of conventional carbon-steel construction" was the second car in the train at the time of the derailment.

Speed Not Reduced—With the fireman dead and the engineer so critically injured that he was unable to make a statement at the time of the investigation, the commission was unable to obtain from remaining members of the crew what it considered "an accurate estimate of the speed of the train." One employee did estimate the speed as being "in excess of 70 m.p.h." Meanwhile, the engine's speed recorder was not operating because the magneto of the assembly was defective; and a witness for the railroad stated that it had been unable to procure magnetos "because of war conditions."

Since "no member of the train crew felt an application of the brakes," the commission concluded that "apparently the speed was not reduced when the train was approaching the curve." It went on to mention the inoperative speed recorder, adding that "the engineer could not see the speed-limit sign after the engine was within 300 feet of the sign, and the bulletin covering approximate locations of speed-limit signs was posted on bulletin boards but engineers were not provided with copies of bulletins." Under these conditions, the report continued, "compliance with the prescribed speed restrictions was dependent upon the engineer's knowledge of the physical characteristics of the track and his ability to see the speed-limit sign about 11 feet to the left of the track and several hundred feet in advance of his train which was running at high speed."

Equipment Was O. K.—Except for the inoperative speed recorder, the commission found no defective condition of the engine prior to the accident. Neither was there any indication of dragging equipment, defective track, or any obstruction having been on the track. Also, the brakes had been tested and functioned properly en route; and there was no condition found that would prevent the proper application of the train brakes.

Making its own calculation as to the speed of the train, the commission fixed the average at "approximately 93 m.p.h." throughout the last 7.78 miles up to the point of derailment. This was based upon the passing time at the last reporting station and the time the telephone and telegraph wires were knocked down during the accident. In any event, it was "evident" to the commission that the train was moving at its locomotive's "overturning speed" on the curve involved; for "the engine overturned to the outside of the curve without marking the rails." A. R. E. A. tables show the overturning speed on the curve for the engine was about 92 m.p.h., the report says. It also calls attention to the variations in the surface and gage on the curve, saying they "would tend to cause the engine to overturn at a speed somewhat less than 92 m.p.h."

Freight Car Loading

Loadings of revenue freight for the week ended August 26 totaled 905,724 cars, the Association of American Railroads announced on August 31. This was an increase of 18,278 cars, or 2.1 per cent above the previous week, an increase of 1,667 cars, or 0.2 per cent above the corresponding week last year, and an increase of 6,319 cars, or 0.7 per cent above the comparable 1942 week.

Loading of revenue freight for the week ended August 19 totaled 887,446 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, August 19

District	1944	1943	1942
Eastern	158,689	169,232	160,187
Allegheny	192,887	195,758	185,425
Pocahontas	55,715	55,269	53,852
Southern	121,485	117,829	117,031
Northwestern	141,551	147,431	151,703
Central Western	140,213	132,347	131,001
Southwestern	76,906	73,474	70,235
Total Western Districts	358,670	353,252	352,939
Total All Roads	887,446	891,340	869,434
Commodities			
Grain and grain products	49,913	56,116	49,672
Live stock	16,436	16,314	14,731
Coal	174,025	176,490	160,710
Coke	14,214	14,521	14,004
Forest products	50,208	48,174	52,030
Ore	79,695	88,784	86,027
Merchandise l.c.l.	106,378	101,114	89,547
Miscellaneous	396,577	389,827	402,713
August 19	887,446	891,340	869,434
August 12	896,172	887,164	868,845
August 5	890,458	872,133	850,221
July 29	910,533	885,525	863,576
July 22	903,034	883,838	855,515
Cumulative Total 34 Weeks	28,086,782	27,058,515	27,837,036

Representation of Employees

The National Mediation Board will hold a public hearing at Washington, D. C., on September 27 on the dispute between railroad labor organizations as to whether the New York Central lines should be considered as a whole or separately in the determination of representation under the Railway Labor Act.

Services of the board have been invoked by the Brotherhood of Railroad Trainmen to investigate an alleged representation dispute among road conductors and road brakemen; and by the American Train Dispatchers Association to investigate an alleged representation dispute among train dispatchers. These organizations seek system-wide elections among the employee groups in which they are interested.

The idea of voting by constituent lines is favored by the Order of Railway Conductors, which now represents some of the road conductors and road brakemen; and by the Order of Railroad Telegraphers, which now represents some of the dispatchers. The public hearing was called by the board "in order to further investigate this matter, as well as to give all interested parties opporunity to present pertinent data, evidence and arguments in support of their respective positions."

The board has also issued its certifications on three recent elections held in connection with representation disputes among mechanical department foremen and supervisors of the Erie, the New York, Chicago & St. Louis, and the Chicago, Burlington & Quincy. The American Railway Supervisors Association, Inc., won on the latter, while the Nickel Plate employees chose the Railway Employees Department, American Federation of Labor. No certification was made in the Erie election for the reason that no organization received a majority of the legal votes cast.

Agree to Pay Wage Claims in Washington Terminal Case

The Washington Terminal Company last week reached an agreement with the Brotherhood of Locomotive Firemen & Enginemen for the settlement of wage claims accrued by the Terminal's yard service employees under the National Railroad Adjustment Board's 1938 award on the assignment of the work of moving empty passenger equipment between the Washington, D. C., station and its coach yard.

The settlement provides that no more claims will be accrued and that the present practice of having the intra-terminal switching done by the road crews of railroads serving the station will continue until six months after the war, when a study will be made to determine the assignment of the work thereafter. The Adjustment Board awarded the work involved to the Terminal employees and the railroads took the case to court, where they were finally defeated last year, when a tie vote of the United States Supreme Court had the effect of sustaining the lower court's adverse decision. The claims to be paid will be those based on actual loss by the Terminal employees because they were not assigned to switching work which the Adjustment Board said was theirs. For example, if a claimant had other work at the time a road service employee did some switching the claim would not be allowed as to such work.

The current issue of "Labor" puts the accrued wage claims at $500,000, adding that some individual firemen and engineers will get as much as $1,000. There was no management's estimate of the amount involved.

Financial Health of Railroads Vital, Ayres Declares

"It is vital to keep the railroads financially healthy in peacetime as well as in wartime, so that they will always be ready to meet the heavy transportation demands which an emergency always throws upon them," Fred L. Ayres, industrial agent for the Jersey Central, told Lions Club members at Allentown, Pa., August 30, pointing to the carriers' present task of carrying more than 75 per cent of all of the nation's war material.

He told the group there are three ways of insuring the railroad's financial health: (1) Private ownership at adequate rates accompanied by discontinuance of subsidies to competitors, (2) private ownership with

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MODERN POWER...

is proving itself!

Today everything that can haul a car has been pressed into service to keep war-time traffic on the move.

But the contrast in performance between the newer locomotives and the old-timers has convinced railroad men of the desirability of ordering modern power when it can be obtained. Economic postwar transportation will demand up-to-date locomotives.

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government subsidies, and (3) government ownership.

"I believe there can be little argument for government ownership," he concluded, "if you consider what happened to the taxpayers when the government exercised such control in the first World War. Twenty-six months of government operation then cost the taxpayers $1,016,500,000, and no sane thinker would wish to see a repetition of that performance."

Ceremony Marks Eightieth Anniversary of Mail Car

The eightieth anniversary of the operation of the first permanent railway post office in the United States was celebrated on August 28, when Mrs. W. T. Chester, granddaughter of George B. Armstrong, a post-office employee and founder of the first permanent railway post office, placed a sack of commemorative mail aboard a modern post-office car in the Chicago & North Western station at Chicago. On August 28, 1864, Mr. Armstrong sent his first railway post-office car over the North Western from Chicago to Clinton, Iowa, and the pouch placed on the Pacific Limited by Mrs. Chester travelled over the same route. The pouch contained commemorative letters sent to stamp collectors by the Glen Ellyn Philatelic Club.

C. & N. W. Ry. Photo

Mrs. W. T. Chester, granddaughter of Geo. B. Armstrong, founder of first permanent railway post office, hands a bag of mail to mail clerk, T. M. Cone

Output of I. C. C. "Wringer" as of July 31

The Interstate Commerce Commission has made public a tabulation, as of July 31, 1944, of changes in capitalization, in debt, and in annual fixed charges under plans of reorganization approved by the commission, or proposed by examiners, for railroads in reorganization proceedings before the commission.

Limited to reorganizations under section 77 of the Bankruptcy Law, and thus excluding receiverships, the statement covers plans for 30 railroads. It includes proceedings still pending, and others, such as the Erie and Chicago Great Western, in which the reorganization has become operative.

The summary figures show that the debt of the 30 roads before reorganization was $4,139,793,489, as compared with $1,768,065,800 provided in the reorganization plans, a reduction of $2,371,727,689. Annual fixed charges, including rent for leased roads and equipment, and amortization of discount on funded debt, would be cut by the plans from $144,472,806 to $39,627,819, a reduction of $104,844,987.

The changes in capitalization effected under the plans would bring the long-term debt of the 30 companies down from $3,234,601,000 to $1,768,065,000, and the fixed-par capital stock from $1,551,192,000 to $816,363,000. Meanwhile the no-par stock would be increased from 1,478,170 shares to 12,604,500 shares.

Receiverships and Trusteeships as of June 30

Seventy-eight railroads including 27 Class I roads and 51 others were in receivership or trusteeship as of June 30, 1944, according to a compilation which has been issued by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics. The total operated mileage involved was 56,294.

As of December 31, 1943, there were 82 railway companies, including 30 Class I roads, in receivership or trusteeship, their total operated mileage being 64,758. The latter was 26.9 per cent of all operated steam railroad mileage, as compared with 27.68 per cent on December 31, 1942, and 28.49 per cent on December 31, 1941.

Labor Fails to Get Security Bill Hearings Resumed

Despite the fact that they had put "into high gear" their drive for enactment of H.R. 4805, the proposed new Railroad Social Insurance Act, the railway labor organizations failed this week to get the House committee on interstate and foreign commerce to resume hearings on the bill at this time. Following an executive session on August 30, Chairman Lea said that the committee had voted not to go on at present with the hearings which were suspended after May and June sessions at which Chairman Murray W. Latimer of the Railroad Retirement Board explained the provisions of the bill.

The "high gear" drive was reported in the August 26 issue of "Labor," which stated that the Railway Labor Executives' Association had called for resumption of the hearings in a letter to Mr. Lea. The "Labor" article went on to assail railroad activities in opposition to the bill, and to accuse A. F. Whitney, president of the Brotherhood of Railroad Trainmen, of collaborating with management on the matter. Meanwhile, however, the "union chieftains were confident that most congressmen would neither fall for Whitney's propaganda nor for that of the railroads."

An R. L. E. A. committee headed by D. B. Robertson, president of the Brotherhood of Locomotive Firemen and Enginemen, issued a statement which took issue with recent management statements about the bill, and closed with an implied threat to congressmen who may be held responsible for further delay. "If those in power," it said, "are going to stall on this program, if they are going to back and fill, and to delay by one excuse or another, then railroad workers will have to conclude that the people in authority are unfriendly to labor and act accordingly."

Swacker Attempts Mediation

Mediation to settle the vacation dispute of the Brotherhood of Railroad Trainmen and the Brotherhood of Locomotive Engineers was attempted at Chicago this week by Frank M. Swacker, but at the time of going to press no agreement had been reached. Should continued efforts fail to bring the parties together the arbitration board will recommend a settlement to the President. As we reported in the *Railway Age* of August 26, hearings were held on August 21 to 26, when four witnesses, 2 for the unions and 2 for the railroads testified. On August 25th the board undertook mediation.

Excessive Speed and Wide-Gage Track Caused Derailment

The derailment of a Louisville & Nashville troop train near High Cliff, Tenn., on July 6 was caused by "a combination of wide gage of track and excessive speed on a sharp curve," according to a report of an investigation conducted by the Interstate Commerce Commission under the direction of Chairman Patterson. The accident resulted in the death of 33 passengers and two train-service employees, and the injury of 93 passengers, three Pullman employees, and two train-service employees.

Heavy Curvature—No. 47, a southbound second-class passenger train, in approaching the point of the accident, passed over a single-track line on which there were in succession, a tangent 1,028 feet long, a 5 deg. 10 min. curve to the left 763 feet, a tangent 217 feet, a 3 deg. 30 min. curve to the right 541 feet, a tangent 192 feet, and an 11 deg. 5 min. curve to the left 235 feet to the point of the accident and 351 feet beyond. The ascending grade varied between 0.0475 per cent and 0.7433 per cent, being 0.6975 per cent at the point of the accident.

On the curve the track structure consisted of 101.49-lb. rail, fully tieplated, double-spiked outside and single-spiked inside each rail, and ballasted with slag to a depth of 12 in. The high rail was rolled in 1943 and laid in December, 1943. The low rail was rolled in 1926, was relaid on the high side of the curve in 1942 and was moved to the low side in December, 1943. Throughout the curve, guard rails were located inside the low rail. A flangeway of 2½ in. was maintained between the guard rail and the running rail. The maximum superelevation on the curve was 5½ in. and the gage varied between 4 ft. 8⅜ in. and 4 ft. 9⅛ in. The superelevation at the point of derailment was 5½ in. and the gage was 4 ft. 9⅛ in.

Speed Limit 35 M.p.h.—L. & N. Maintenance of Way Department rules with respect to the gage of curves provide that

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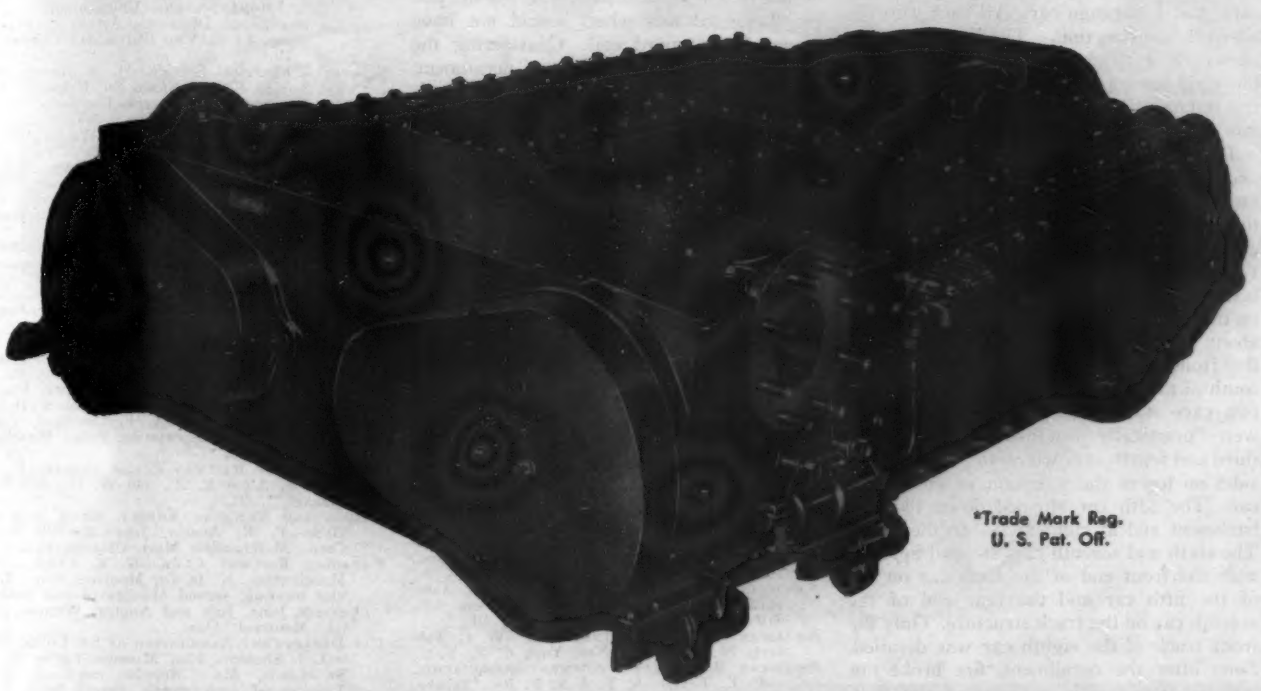
The TYPE "E" BOOSTER*



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A new Booster to meet new conditions

For today's increasingly exacting demands the Franklin Railway Supply Company, Inc., has developed a new Booster, which meets the requirements brought about by higher boiler pressures and new factors in current steam locomotive operation.

The short cut-off, the cast steel cylinders with large steam and exhaust passages, and a new design of ball joint, with self-adjusting packing, secure maximum efficiency and economy in the use of steam.

A special starting device enables the Booster to develop maximum starting effort, and a new air control permits engagement at higher speed. Other outstanding features include dynamic balancing and a roller bearing crank shaft, securely housed in the engine bed.

Every element in its construction is designed to increase the operating effectiveness of the Booster.

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curves of less than 11 deg. shall be put to standard gage; while gage on curves of 11 deg. and over shall be widened as specified, the widening to be ¼ in. in the case of a curve of 11 deg. 12 min. The maximum authorized speed for passenger trains on the curve was 35 m.p.h.

No. 47 consisted of a locomotive of the 4-8-4 type and 16 cars, made up in the following order: 4 Pullman tourist cars, 1 Pullman kitchen car, 1 Pullman troop-sleeping car, 2 Pullman tourist cars, 1 baggage car, 3 Pullman troop-sleeping cars, 1 Pullman kitchen car, 2 Pullman troop-sleeping cars, and 1 baggage car. All cars were of all-steel construction. The accident occurred on a clear night about 9:05 p. m., the train having passed Williamsburg, Ky., the last open office at 8:42 p. m., 8 hrs. 2 min. late.

The engine and the first eight cars were derailed as the train took the curve "at an estimated speed of 45 m.p.h." The track in the vicinity was laid on a hillside cut, and generally paralleled the east bank of Clear Fork river. The engine and tender, both badly damaged, stopped on their right sides on the river bed 65 ft. west of the track and about 33 ft. below the level of the track, the front end of the engine being 333 ft. south of the point of the accident. The first two cars stopped against the engine, and were "practically demolished," as were the third and fourth cars which stopped on their sides on top of the wreckage of the second car. The fifth car stopped down the embankment and at right angles to the track. The sixth and seventh cars stopped upright, with the front end of the sixth car on top of the fifth car and the rear end of the seventh car on the track structure. Only the front truck of the eighth car was derailed. Soon after the derailment, fire broke out and the combustible portions of the first, second, third, fifth and sixth cars were destroyed.

Speed Limit Exceeded—The engine was equipped with a speed indicator, "but it was inoperative at the time of the accident." There was no defective condition of the engine and the brakes had functioned properly en route. There was no service application of the brakes, however, and the commission was unable to determine when the engineman first became aware of anything being wrong, as the engineer and fireman were killed. As noted above, the commission estimated the train's speed at 45 m.p.h., which it pointed out was "about 20 m.p.h. above equilibrium speed and about 10 m.p.h. above maximum safe speed on the curve." It also noted that the "specified curvature" was 10 deg.

After discussing what its examination of the track disclosed in the way of flange marks, the commission concluded that "evidently the engine rolled laterally, crowded the high rail, and the greater part of the force was exerted against the gage side and the top surface of the head of that rail."

It went on to give gage, flangeway, and engine-truck measurements, which, considered together with the crowding of the high rail, made it seem apparent that "the engine rolled enough for the left front engine-truck wheel to mount the guard rail, then the flange of the companion wheel exerted additional pressure against the gage side of the head of the outer rail, which in turn was canted outward, and following wheels completed the overturning of the rail."

Gage Too Wide—"If the engine had not been rolling laterally when it entered the curve," the report continued, "it is probable that the left front engine-truck wheel would not have mounted the guard rail. However, if the gage and the alinement of the track had been maintained in accordance with the specifications of the railroad, the curvature would have been 10 deg. instead of 11 deg. 15 min. and the gage would have been 4 ft. 8½ in. instead of 4 ft. 9⅛ in., and the flange of this wheel would not have mounted the guard rail. Considering the actual curvature at the point of derailment, the specifications call for the maintenance of a gage of only 4 ft. 8¾ in. on curvature of 11 deg. 12 min., or ⅜ in. less than the gage in question."

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago 80, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis, Mo.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York 6, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—Miss Elinor Heffern, Room 839, 310 S. Michigan Ave., Chicago 4, Ill. Annual meeting May 8-10, 1945, Hotel Stevens, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Miss Elinor Heffern, Room 839, 310 S. Michigan Ave., Chicago 4, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York 6, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—P. E. Taylor, A. T. & S. F. Ry., Topeka, Kan. Next meeting, December 14-15, 1944, Palmer House Club Bldg., Chicago, Ill.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 13-15, 1945, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—Page N. Price, Norfolk & Western Magazine, Roanoke, Va.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. P. Nye, Tower Bldg., Washington 5, D. C.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York 18, N. Y.
Railroad Division.—E. L. Woodward, Railway Mechanical Engineer, 105 W. Adams St., Chicago 3, Ill.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York 17, N. Y.

AMERICAN WOOD-PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St., N. W., Washington 5, D. C.

ASSOCIATED TRAFFIC CLUBS OF AMERICA, INC.—R. A. Ellison, Cincinnati Chamber of Commerce, 1203 C. of C. Bldg., Cincinnati 2, O.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—F. R. Borger, C. I. & L. Ry., 836 S. Federal St., Chicago 5, Ill.

ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Bldg., Washington 6, D. C.
Operations and Maintenance Department.—Charles H. Buford, Vice-President, Transportation Bldg., Washington 6, D.C.
Operating-Transportation Division — L. R. Knott, 59 E. Van Buren St., Chicago 5, Ill.
Operating Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Transportation Section.—H. A. Eaton, 59 E. Van Buren St., Chicago 5, Ill.
Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York 17, N. Y.
Freight Station Section.—N. Kaplan, 59 E. Van Buren St., Chicago 5, Ill.
Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Protective Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Safety Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York 7, N. Y.
Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 13-15, 1945, Palmer House, Chicago, Ill.
Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 13-15, 1945, Palmer House, Chicago, Ill.
Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.
Signal Section.—R. H. C. Balliet, 30 Vesey St., New York 7, N. Y. Annual meeting, October 4-5, 1944, Hotel Stevens, Chicago, Ill.
Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago 5, Ill.
Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago 5, Ill.
Purchases and Stores Division.—W. J. Farrell Executive Vice-Chairman, Transportation Bldg., Washington 6, D. C.
Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago 5, Ill.
Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington 6, D. C.
Car Service Division.—E. W. Coughlin, (Assistant to Chairman), Transportation Bldg., Washington 6, D. C.
Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington 6, D. C.
Accounting Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C.
Treasury Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C.
Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington 6, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Alton R. R., 340 W. Harrison St., Chicago 7, Ill.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—P. R. Austin, Johns-Manville Sales Corp., Merchandise Mart, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal, Que. Regular meeting, second Monday of each month, except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS, MO.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—F. H. Stremmel, 6536 Oxford Ave., Chicago 31, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—Ralph J. Feddor, 2803 N. Campbell Ave., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—R. E. Mann, 1840-42 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—H. J. Hawthorne, Union Railroad, East Pittsburgh, Pa.

EASTERN CAR FOREMEN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York 7, N. Y. Regular meetings, second Friday of January, February (Annual Dinner), March, April, May, October and November, 29 W. 39th St., New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, North Little Rock, Ark.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany 3, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington, D. C.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—C. J. Goodyear, 725 Reading Terminal, Philadelphia 5, Pa.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE.—Edward F. Lacey, Suite 450, Munsey Bldg., Washington 4, D. C. Annual meeting, November 16-17, 1944, Hotel Pennsylvania, New York, N. Y.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago 4, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Vendome, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York 7, N. Y. Regular meetings, third Thursday of each month, ex-

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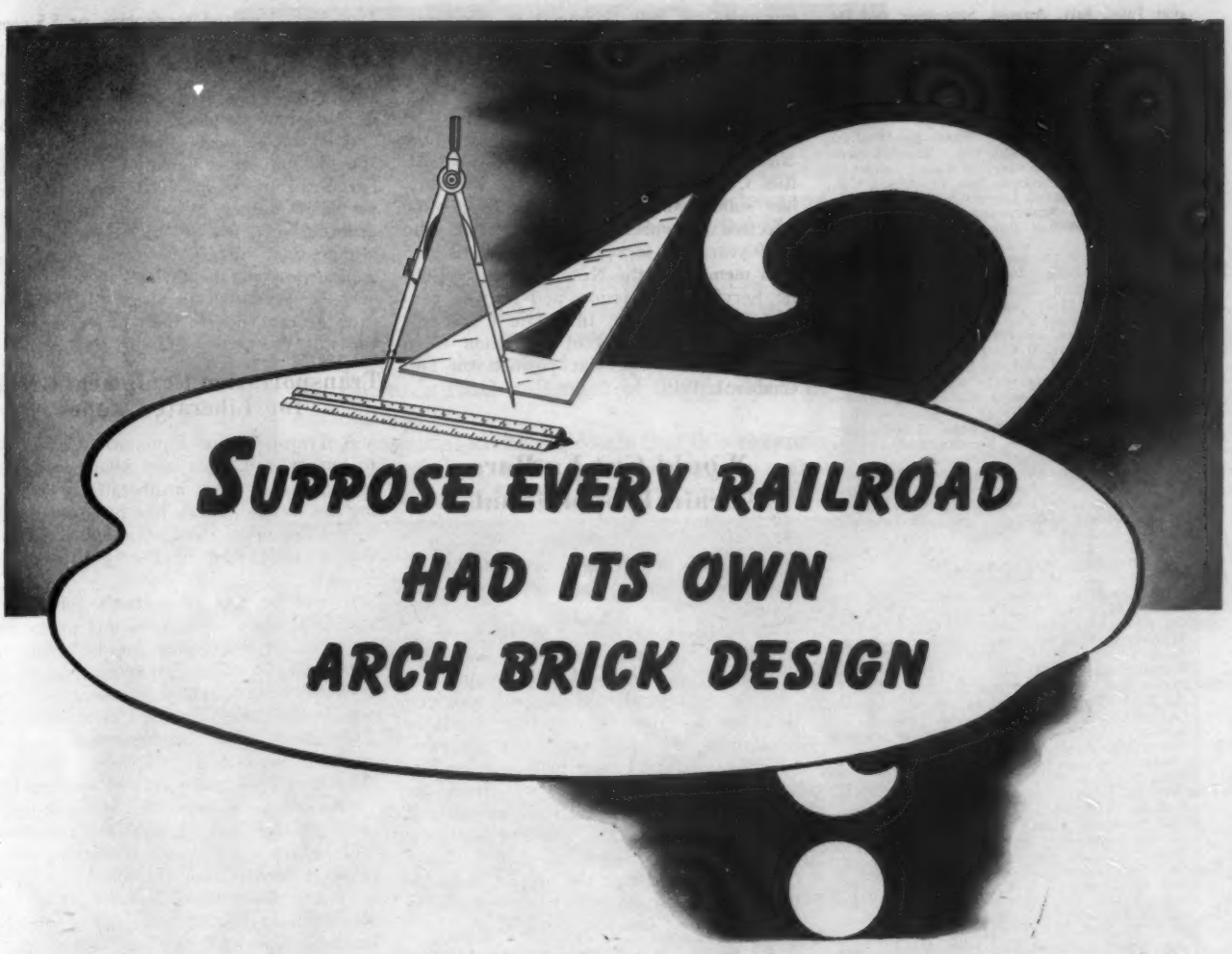

LOOK about and see how standards on many items vary with each railroad. Think of the confusion and expense involved if this also applied to Arch Brick. If a road ran short, it would wait for weeks for its special brick to be made! At joint terminals, the confusion would be unendurable. Years ago, American Arch Company foresaw such a situation and fostered the standardization of Arch tubes and of Arch Brick sizes and designs. Think of the grief this good work saved. In everything having to do with Arch Brick, American Arch Company for 35 years has served the railroads. This service has had and still has a high value.

HARBISON-WALKER REFRACTORIES CO.

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AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

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NORTHWEST CARMEN'S ASSOCIATION. — E. N. Myers, Minnesota Transfer Ry., 1434 Iowa Ave., St. Paul, Minn. Regular meetings, first Monday of each month, except June, July and August, Midway Club, 1931 University Ave., St. Paul, Minn.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box A, Sausalito, Cal. Regular meetings, second Thursday of each alternate month, at Palace Hotel, San Francisco, Cal., and Hotel Biltmore, Los Angeles, Cal.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago 3, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 624 W. Adams St., Chicago 6, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago 4, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION. —J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with Telegraph and Telephone Section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 610 Shell Bldg., St. Louis 3, Mo.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—Miss Elinor Heffern, Room 839, 310 S. Michigan Ave., Chicago 4, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS. —D. W. Brantley, C. of Ga., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto 2, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, O. and C. Company, 59 E. Van Buren St., Chicago 5, Ill.

UNITED ASSOCIATION OF RAILROAD VETERANS.—Roy E. Collins, 112 Hatfield Place, Port Richmond, Staten Island 2, N. Y.

WESTERN RAILWAY CLUB.—E. E. Thulin, Suite 339, Hotel Sherman, Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chicago, Ill.

Westinghouse Electric Completes 12 Months of Free Demurrage

More than 9,800 extra car-days were saved for other vital war shipments by rail during a record 12-months demurrage-free period just completed by the East Pittsburgh, Pa., works of the Westinghouse Electric & Manufacturing Co. The achievement was termed outstanding by Walter A. Anderson, district director of the Division of Railway Transport, Office of Defense Transportation. During the 12 months, nearly 16,000 cars were loaded or unloaded at the East Pittsburgh works in an average time of 1.37 days per car and without a single car being charged demurrage.

I. C. C. Service Orders

The Interstate Commerce Commission has issued Service Order No. 210-A, vacating as of September 1 Second Revised Service Order No. 210 which restricted icing and reicing of refrigerator cars loaded with fruits or vegetables at points in the South. Second Revised Service Order No. 224 and Revised Service Order No. 226 have been issued to extend the provisions of those orders, which relate in turn to icing of fruits and vegetables in the West and retop icing of vegetables in the West, to cover intrastate as well as interstate shipments, and also imported shipments from Canada and Mexico.

Benton to Retire

John E. Benton, general solicitor of the National Association of Railroad and Utilities Commissioners for the past 25 years, has submitted his resignation to become effective December 31. Mr. Benton, who is 69 years old, served from 1911 until 1915 as a member of the New Hampshire Public Service Commission, and he was general solicitor of the Interstate Commerce Commission's Bureau of Valuation when he assumed his present position on December 1, 1919.

Would Cut Ex-Barge Grain Proportionals

(*Continued from page 380*)

proportionals in connection with the barge-rail traffic where such conditions do not exist."

"If ex-barge rates must be the same as the ex-rail rates, where the traffic is stopped in transit," the proposed report continued, "the only alternative of the rail carriers, if undue depletion of their revenues is to be avoided, would be to abolish the rate-break system and transit privileges entirely and maintain their local rates from the gateways or markets on both ex-rail and ex-barge traffic. This, together with the fourth-section situation, is what is meant by the statement that the present ex-barge rates from Chicago jeopardize the all-rail rate structure."

Ex-Barge Rates Should Be Higher—But while he found the circumstances and conditions surrounding the ex-barge grain to be "so substantially and materially different" as to warrant "somewhat higher rates" on such traffic, Examiner Fuller went on to say that "it does not follow that rates as high as those proposed are justified." Moreover, he suggested that the proposed rates might not have the effect of restoring traffic to the all-rail routes; since they might divert the grain to barge movements to the South. In any event, as the examiner appraised them, the proposed schedules "would destroy the inherent advantages of barge transportation in connection with barge-rail routes to Official Territory. . . ."

He determined that what the barge carriers and users thereof are entitled to "is not ex-barge rates made the same in amount as the ex-rail rates, but ex-barge rates made on the same plan with respect to the barge-rail traffic as the ex-rail rates are made with respect to the all-rail traffic, namely, ex-barge rates made as nearly as practicable on a uniform basis reflecting the average of the varying balances on the barge-rail traffic, with through barge-rail rates adjusted accordingly." Working out this idea, Mr. Fuller arrived at his recommended basis of ex-barge proportionals averaging 17.9 cents to Central Territory, or 1.5 cents below the local rates and 3.3, 1.8, and 2.2 cents above the Trans-Mississippi, Northwest, and Illinois proportionals, respectively; and ex-barge proportionals averaging 27 cents to Trunk Line-New England territories, or 5.5 cents below the local rates and 3 cents above the ex-rail or ex-lake proportionals.

O.P.A. Plea Rejected—With respect to the joint-rate phase of the case, the examiner recommends that the commission should not prescribe joint rates on the barge-rail traffic involved. Also, he finds no basis "either in fact or in law" for granting an Office of Price Administration request that, "regardless of the merits from a peacetime standpoint," no increase whatever be permitted in the ex-barge grain rates from Chicago "until after the present war emergency."

Transportation Equipment Group for Liberated Zones

A Transportation Equipment Committee, to survey rail, port and inland-waterway transportation needs in liberated areas during the relief period, has been announced by the Combined Production and Resources Board, and noted in Foreign Commerce Weekly.

It will be this committee's job to assemble all data on supplies and production of transportation equipment, including the utilization of available equipment, needed to maintain or reestablish shipping services outside the United States, United Kingdom and Canada. The committee will also recommend methods for the supply and production of such materials and equipment.

Cooperating closely with national agencies—military and civilian—the committee will receive and consider reports on transportation needs from various Allied countries and the United Nations Relief and Rehabilitation Administration. Such recommendations as it may have will be passed along to the Combined Production and Resources Board, which will in turn transmit them to appropriate national agencies for action.

Roads Asking More Time for AB Brake Installations

Railroad replies to the Interstate Commerce Commission's recent show-cause order on the matter of equipping freight cars with AB brakes are asking for additional time beyond the January 1, 1946, deadline proposed by the commission. Also, the replies contend that the order should be limited to revenue freight cars interchanged among roads.

The earliest deadline suggested in any of the replies thus far made public by the commission was December 31, 1946, although the New York, New Haven & Hartford would not object to January 1, 1946, provided exception is made with respect to cars which it has scheduled for retirement in 1946 and 1947. Other roads, too, asked for similar provisions exempting cars scheduled for retirement after the war. The replies generally called for varying extensions, some specific but others putting it at five years after the war or a "reasonable period" after the termination of hostilities.

The American Short Line Association took the position that there is no warrant for applying the proposed order to cars used exclusively on short lines; or for requiring that "relatively short trains" be restricted to cars with AB brakes. Some

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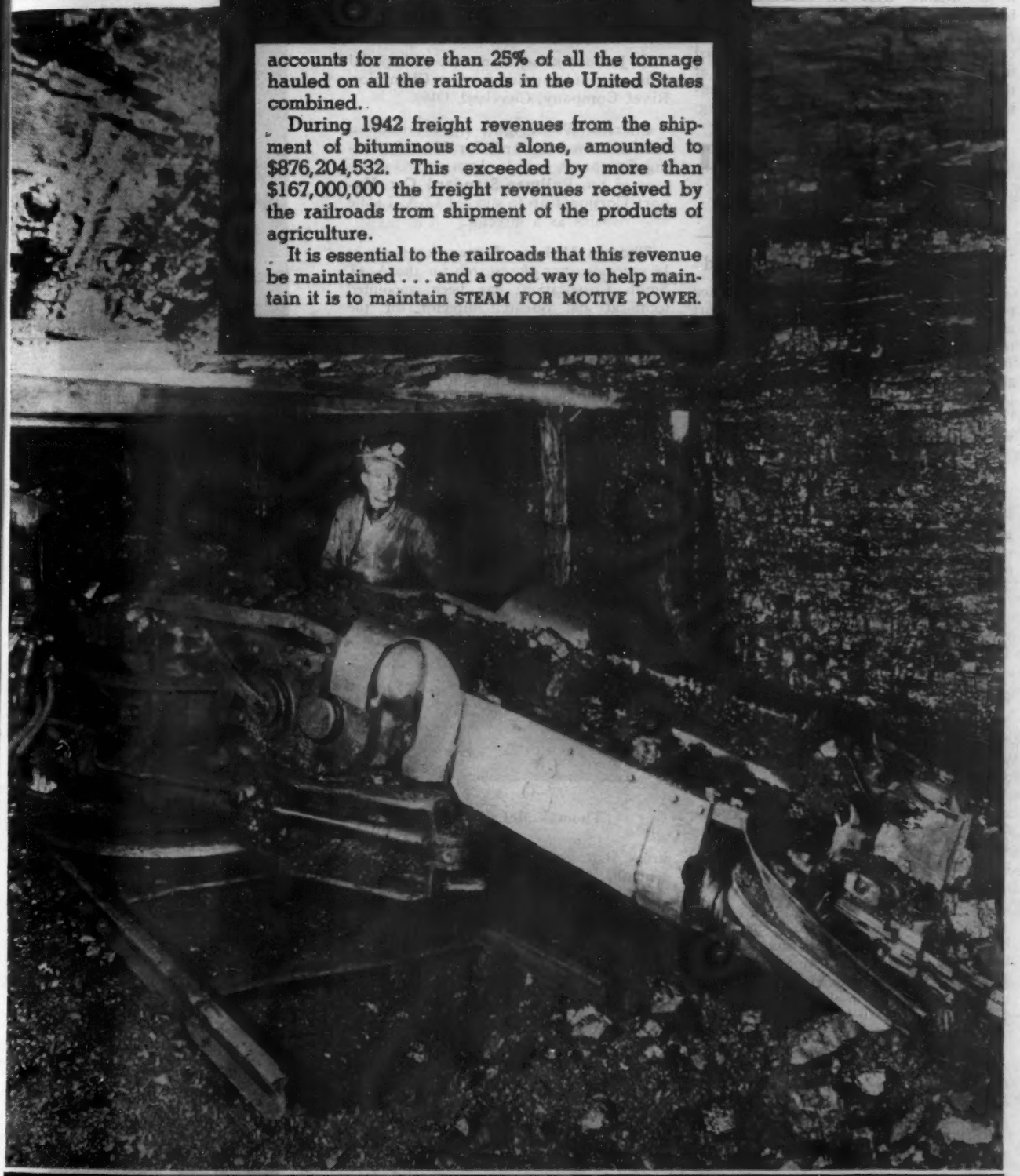
COAL...

Photo Courtesy
Baltimore & Ohio R. R.

accounts for more than 25% of all the tonnage hauled on all the railroads in the United States combined.

During 1942 freight revenues from the shipment of bituminous coal alone, amounted to $876,204,532. This exceeded by more than $167,000,000 the freight revenues received by the railroads from shipment of the products of agriculture.

It is essential to the railroads that this revenue be maintained . . . and a good way to help maintain it is to maintain STEAM FOR MOTIVE POWER.



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individual short lines took a like position. The Virginian asked that compliance on 105-ton cars be not required as of any specified date, but be left open to be fixed in accordance with the development of brakes for such cars. As noted in the *Railway Age* of August 5, page 247, the commission's show-cause order provided for a prehearing conference to be held at the Morrison Hotel, Chicago, on September 6, with Chairman Patterson presiding.

Equipment and Supplies

Mo. P. Equipment Authorized

The Missouri Pacific has been granted permission by the Federal District court at St. Louis, Mo., to spend $5,732,950 for new equipment and roadway improvements. Included are $3,914,000 for 1,000 box cars and $1,357,000 for 7 Diesel-electric freight locomotives. Loading platforms in the Rio Grande Valley on the St. Louis-Brownsville-Mexico line will also be improved.

FREIGHT CARS

The WAR DEPARTMENT, Cincinnati, Ohio, is inquiring for 4,800 freight cars of 66-in. gage for the Indian Supply Commission including 2,500 20-ton, 4-wheel box; 2,000 20-ton, 4-wheel gondola; and 300 40-ton, 8-wheel tank.

The MOGYANA RAILWAY OF BRAZIL is reported considering the acquisition here of 100 to 200 40-ton meter-gage box cars.

The SOROCABANA RAILWAY OF BRAZIL is inquiring for from 250 to 500 lightweight steel box cars of 36 metric tons' capacity.

The NATIONAL RAILWAYS OF MEXICO will build 1,000 box cars of 50 tons' capacity in its Aguascalientes shops.

THE DESARROLLO INDUSTRIAL Y AGRICOLA, Mexico, is reported in the market for 110 40-ton box cars, 50 40-ton gondola cars and 50 40-ton hopper cars.

PASSENGER CARS

The NEW YORK, CHICAGO & ST. LOUIS has ordered five 70-ft. all steel express-baggage cars from the American Car & Foundry Co. The inquiry for this equipment was reported in the *Railway Age* of June 10.

The WABASH is inquiring for seven passenger-train cars including one baggage-mail car, one baggage car, one coach, one deluxe-coach, one coach-buffet car, one parlor-observation car and one diner.

SIGNALING

The SEABOARD AIR LINE has placed an order with the Union Switch & Signal Co., for the materials required for the installation of an absolute permissive block signal system between Monroe, N. C., and Howells No. 2 interlocking plant near Atlanta, Ga., a distance of 269 miles. The order includes style R-2 color-light signals, style U-5 switch circuit controllers, relays, housings, transformers and rectifiers.

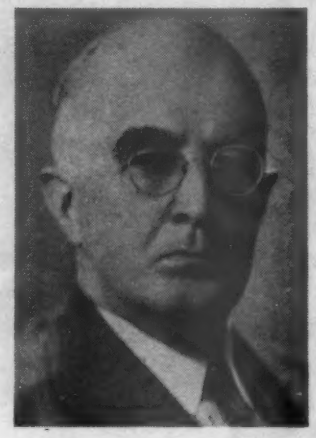
Supply Trade

Thurlow E. McBride, treasurer, has been elected vice-president and treasurer of the **American Engineering Company.**

N. J. Carbis has been appointed special railroad representative for the **Champion Rivet Company,** Cleveland, Ohio.

Charles W. Wright, vice-president of the **Pullman-Standard Car Manufacturing Company,** has also been elected president of the **Pullman-Standard Car Export Corporation** to succeed C. A. Liddle who remains as a director.

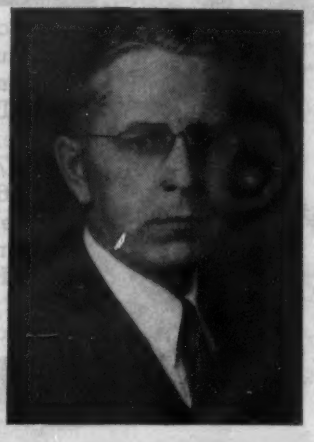
Thomas McLean Jasper, for the past 18 years director of research for the A. O. Smith Corporation, has been appointed technical and research director for the **General American Transportation Corporation** with headquarters in Chicago. Mr. Jasper was educated at Illinois University and Wisconsin University. He served four years with the British Army, attaining the rank of major of artillery,



Thomas McLean Jasper

in the last war. Prior to his association with the A. O. Smith Corporation, he was assistant professor of mechanics at the University of Wisconsin and associate professor of engineering materials and engineer of tests at Illinois University for the fatigue of metals investigation under the auspices of the National Research Council. He also served for two years as an examiner in the bureau of efficiency engineering in Chicago.

Alexis J. Diakoff, head of the mechanical engineering department of the University of North Dakota, has been appointed consulting engineer of the Diesel engine department of the Schenectady, N. Y., plant of the **American Locomotive Company.** Mr. Diakoff was graduated from the Moscow Institute of Technology with a degree in mechanical engineering. He was chief engineer of a submarine of the Russian Black Sea fleet during the first world war. When the fleet was evacuated to North Africa, he was appointed in charge of consultation and operation of Diesel and gas power plants in Tunisia and Algeria. He subsequently was employed in the Diesel department of the Rennault Works, near Paris, France, testing installations and as designing engineer of Diesel engines. He came to the United States in 1923. He was graduated from Michigan University with a degree in me-



Alexis J. Diakoff

chanical engineering and has been associated with the Ford Motor Company and later with the Detroit Edison Company as a designing engineer. He joined the University of North Dakota as assistant professor of mechanical engineering and later was appointed professor and head of that department. He was a certified C.A.A. ground school instructor in airplane engines at the university from 1937 to 1944.

R. H. Weber, sales engineer of **W. H. Miner, Inc.,** has resigned to become a manufacturers agent with offices at San Francisco, Calif. He will represent Ajax-Consolidated Company, Binks Manufacturing Company, Illinois Railway Equipment Company, Railway Truck Corporation, and Morton Manufacturing Company.

J. D. Loftis, of the Cleveland, Ohio, office of the **Baldwin Locomotive Works,** has been appointed eastern district manager in charge of a new office opened by

J. D. Loftis

the company at 1152 Broad Street Station Building, Philadelphia, Pa. The new office will handle sales for all Baldwin divisions in Pennsylvania, Ohio, portions of Michigan and New Jersey and in the eastern seaboard states south of New Jersey. Mr. Loftis was

educated at Utah University and Leland Stanford University. He joined the Denver & Rio Grande Western in 1928 and was employed with that railroad until August, 1942, when he became associated with the Office of Defense Transportation. He served with the O.D.T. as mechanical assistant; assistant to the director, division of railway transport; and as traffic flow chief until December, 1943, when he joined the Baldwin Locomotive Works.

John W. Scallan, assistant vice-president of the **Pullman-Standard Car Manufacturing Company,** Chicago, has been elected vice-president in charge of the sales of transportation equipment and war material in Chicago and the middle West. Mr. Scallan was born in Cincinnati, Ohio, in 1902, and was graduated from Notre Dame in 1925. He entered the employ of the Pull-

John W. Scallan

man-Standard Car Manufacturing Company in 1926 as a sales agent, and six years later was promoted to sales manager of the Western district. In 1942 he became assistant vice-president, which position he has held until his recent election.

Joseph Sinkler, Inc., Chicago, has taken over the manufacture and sales of the globe and angle valves of the **Edward O'Malley Valve Company,** Chicago.

R. S. Manley, president of the Texas **Creosoting Company,** Orange, Tex., has been elected chairman of the board, and has been succeeded by **Howard S. Peterson,** vice-president.

The **Fort Pitt Steel Casting Company,** McKeesport, Pa., a division of the H. K. Porter Company at Pittsburgh, Pa., has been awarded a third silver star for its Maritime Commission pennant for outstanding production.

H. C. Kenyon has been appointed general sales manager of the **Inland Rubber Corporation,** Chicago, a subsidiary of the Minnesota Mining & Manufacturing Co. Mr. Kenyon joined the Minnesota Mining & Manufacturing Co. as a sales representative in 1922 and for the past ten years has been a division sales manager with headquarters in Philadelphia, Pa.

Andrew Speirs, assistant vice-president of the **American Car & Foundry Co.,** with headquarters at Chicago, has retired after 53 years of service. He started his career as a stenographer for the Wells & French Co., and in 1898, shortly after this company was taken over by the American Car & Foundry Co., he was made a salesman. He was promoted to assistant vice-president on February 8, 1930, which position he has held until his retirement.

H. Church has been appointed vice-president in charge of sales for the **Weatherhead Company,** Cleveland, Ohio; **George H. Hufferd** has been appointed vice-president in charge of engineering; **Robert P. Gibson,** vice-president in charge of automotive sales, and **Morris H. Wright,** assistant to the president.

R. V. Chase, works manager of the **Pullman-Standard Car Manufacturing Company,** with headquarters at Worcester, Mass., has also been appointed New England district manager in charge of railroad equipment sales in that region with the same headquarters.

George C. Beeson, formerly attached to the engineering departments of the Berwick, Pa., and St. Charles, Mo., plants of the **American Car & Foundry Co.,** has been transferred to the New York sales office as sales engineer, giving particular attention to passenger car equipment. Mr. Beeson was graduated from Purdue University with a degree in mechanical engineering in 1930. While attending college, he worked during summer vacations at the a.c.f. Jeffersonville, Ind., plant and upon graduation was employed full-time at that plant. He joined the Anglo-American Milling Machinery Company of Owensboro, Ky., in 1932. He returned to a.c.f. in 1934 and was assigned to passenger car engi-

George C. Beeson

neering in the Berwick plant. He was transferred to the western division of the engineering department at St. Charles in 1941.

OBITUARY

John P. Moses, formerly manager of railroad sales for Joseph T. Ryerson & Son, died August 18 in Chicago. He was 73 years of age. Mr. Moses was associated with the Ryerson company for 41 years. He began his career with the company in the operating department and was later transferred to commercial sales and then to railroad sales. He was appointed manager of the railroad sales department in 1924, and served in that position until a

John P. Moses

few years ago when he relinquished management of the department but continued to serve in an advisory capacity.

Construction

CHICAGO, BURLINGTON & QUINCY.—In connection with its proposal to acquire trackage rights over the Chicago Great Western's 51-mile line between Burch, Iowa, and Talmage, this road has applied to the Interstate Commerce Commission for authority to construct a 2,400-ft. connecting track at Talmage.

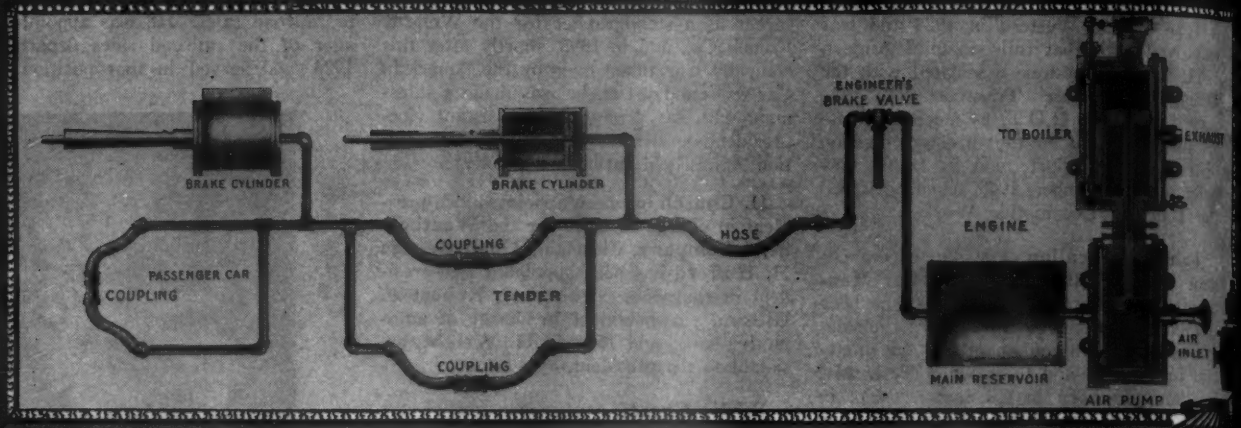
CHICAGO, ROCK ISLAND & PACIFIC.—This road has applied to the Interstate Commerce Commission for certificates authorizing whatever construction or abandonment may be required in connection with a proposed relocation of its line from Paris, Iowa, to Centerville. The proposed new line which would reduce "excessive grades and curvature" would be 18 miles in length as compared with the present 22-mile line.

Abandonments

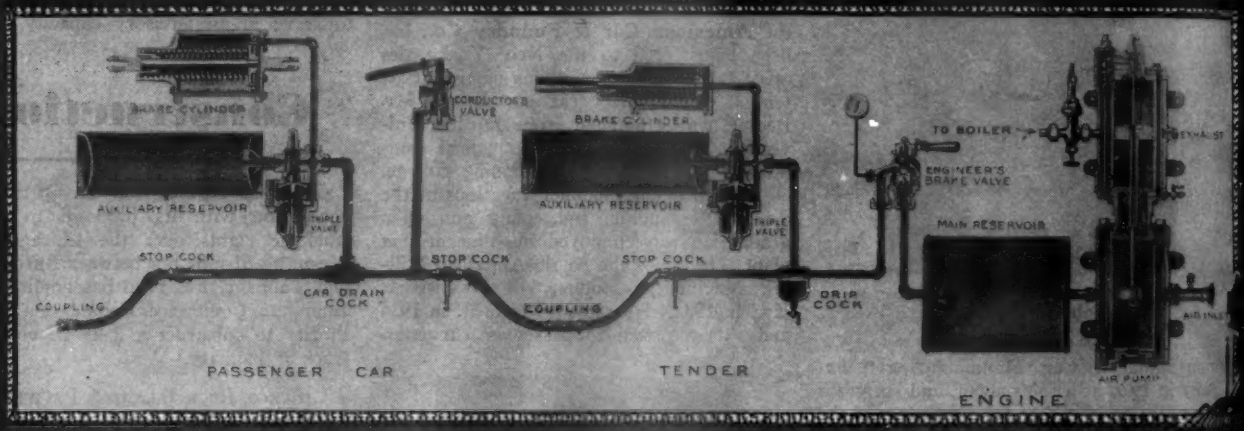
CANTON & CARTHAGE.—The Interstate Commerce Commission, Division 4, has authorized this road to abandon operation over the Denkmann Lumber Company's 10.75-mile line between McAfee, Miss., and Edinburg. Because the line is no longer in existence, Denkmann having permitted the rails to be taken up for war use, the same decision dismissed that part of the C. & C. application which sought authority to abandon operation over the 1.5-mile line between Sand Hill, Miss., and Koch.

CHICAGO, BURLINGTON & QUINCY.—In connection with its proposal to acquire trackage rights over an alternate Chicago Great Western line, this road has applied to the Interstate Commerce Commission

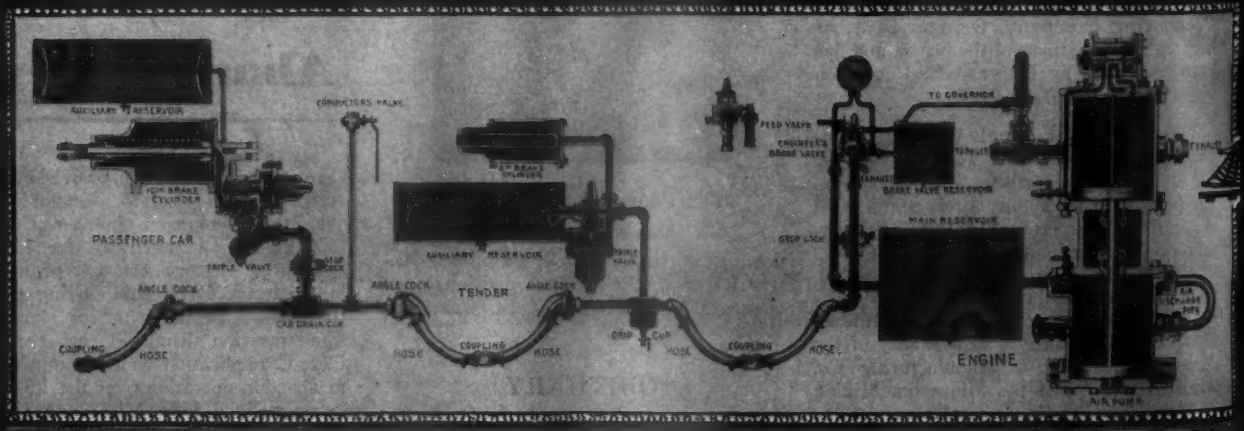
News Department continued on second left-hand page



The Westinghouse Original Straight Air Brake 1869



The Westinghouse Plain Automatic Air Brake 1872



The Westinghouse Quick-Action Automatic Air Brake 1887

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1869

1944

TO PERMIT TODAY'S TRAINS TO MOVE AT SHORTER INTERVALS WITH HEAVIER LOADS AT HIGHER SPEEDS—SAFELY.

for authority to abandon its 53-mile line between Burch, Iowa, and Osceola.

HAMPTON & LANGLEY FIELD.—This road has applied to the Interstate Commerce Commission for authority to abandon operation of a 3-mile line from Hampton, Va., to Langley Field, which the United States government proposes to acquire.

KANSAS CITY SOUTHERN.—This road has applied to the Interstate Commerce Commission for authority to abandon a line in Jasper County, Mo., which extends northeasterly 3.8 miles from a connection with the main line about 1,883 ft. south of Mile Post 150.

Financial

AKRON, CANTON & YOUNGSTOWN.—*Promissory Notes.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue a promissory note in the amount of $116,200, and others in the total amount of $350,000. The first would be in further evidence of the unpaid portion of the purchase price of a 2-8-2 type freight locomotive; and the others would be in further evidence of, but not in payment of, the unpaid principal of conditional-sale agreements assumed by the applicant.

BANGOR & AROOSTOOK. — *Promissory Notes.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue promissory notes totaling $360,000 in evidence of, but not in payment of, the unpaid portion of the $481,350 purchase price of two steam freight locomotives and 85 freight cars to be acquired under conditional-sale agreements. Low bidder for the notes is the Eastern Trust & Banking Company, Bangor, Me., which has agreed to purchase them at par, with interest at 1.292 per cent.

BOSTON & MAINE.—*Acquisition.*—The Interstate Commerce Commission, Division 4, has authorized this road to purchase the properties and franchises of the Nashua & Lowell, which it has operated under lease since 1887. The purchase price is $880,000 or the equivalent of $110 a share on the N. & L.'s 8,000 shares of outstanding stock of which the B. & M. owns 7,626 shares.

BOSTON & MAINE.—*Promissory Notes.*—This road has applied to the Interstate Commerce Commission for authority to issue promissory notes in the total amount of $5,571,689.25 as evidence of indebtedness to be incurred in connection with the acquisition under lease and purchase agreements of 12 5,400 hp. Diesel-electric freight locomotives. Four of the locomotives would involve the issuance of notes in the amount of $1,702,721.25, which would bear interest at 2½ per cent. The other eight would involve notes in the amount of $3,868,968, bearing interest at a rate to be determined by competitive bidding.

CHESAPEAKE & OHIO.—*Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for authority to assume liability for $2,500,000 of equipment trust certificates to finance not exceeding 80 per cent of the purchase price of 1,250 all-steel hopper cars of 50 tons' capacity, expected to cost a total of $3,221,950. The certificates would be dated September 15, and would mature in 10 equal installments on September 15 of each year from 1945 to 1954. The dividend rate, not to exceed 2½ per cent, would be named by the successful bidder for the issue, no bid to be less than 99 per cent of par.

CHICAGO, BURLINGTON & QUINCY.—*Trackage Rights.*—This road has applied to the Interstate Commerce Commission for authority to acquire trackage rights over the Chicago Great Western's 51-mile line between Burch, Iowa, and Talmage. If the authority is granted, the applicant would construct a connecting track at Talmage and abandon its 53-mile line between Burch and Osceola, Iowa.

CINCINNATI UNION TERMINAL. — *Refinancing.*—This company has been authorized by the Interstate Commerce Commission, Division 4, to issue $24,000,000 of 2¾ per cent series G first mortgage bonds to replace an equal principal amount of 3½ per cent series D first mortgage bonds, which will be called at 106. Also authorized the sale of the new bonds at 101.08, which was the best bid received by the applicant for the issue; it was submitted by Lehman Brothers on behalf of itself and 47 associates. The issue will be dated August 1, 1944, and mature in 30 years, subject to earlier call at a premium varying with the date. The decision further authorizes assumption of liability jointly and severally by the Terminal's seven proprietary roads: Pennsylvania; Louisville & Nashville; Norfolk & Western; Cleveland, Cincinnati, Chicago & St. Louis; Baltimore & Ohio; Chesapeake & Ohio; and Cincinnati, New Orleans & Texas Pacific. In addition, the New York Central is authorized to assume liability as lessee of the Big Four.

DELAWARE, LACKAWANNA & WESTERN.—*Merger.*—This company and the Utica, Chenango & Susquehanna Valley have applied to the Interstate Commerce Commission for authority for the latter to merge into the D. L. & W., which road now operates the Utica properties under lease. The transaction is one of several in which the Lackawanna is undertaking to simplify its corporate structure, and clear up disputed tax liabilities now in litigation. In connection with the merger, the Lackawanna would issue certificates of deposit for the acquisition of 37,039 shares of Utica's stock, and $3,703,900 of Utica, Chenango & Susquehanna Valley Division mortgage bonds.

GULF, MOBILE & OHIO.—*New Directors.*—R. G. Wallace, executive vice-president of the Masonite Corporation of Chicago, and A. B. Campbell, president of the Mississippi School Supply Company, Jackson, Miss., were elected members of the board of directors of this company at a meeting held at St. Louis, Mo., on August 30.

KANSAS CITY SOUTHERN. — *Trackage Rights.*—This road has applied to the Interstate Commerce Commission for approval of an agreement whereby it would obtain trackage rights over the St. Louis-San Francisco's 28.74-mi. line between Porteau, Okla., and Fort Smith, Ark. The applicant has operated over the Frisco since the washout on April 30 of its own Spiro, Okla.-Fort Smith line, which it is now seeking to abandon in another pending application.

KANSAS CITY TERMINAL. — *Refunding Bond Issue Sold.*—On August 30 a group of investment bankers headed by Dick & Merle-Smith was awarded the Kansas City Terminal's $47,000,000 issue of first mortgage serial bonds dated October 1, 1944, and maturing from 1948 to 1974, on a bid affording an overall net interest cost to the company of 2.7474 per cent. Of the issue, $19,500,000 of 1⅞ to 4 per cent bonds maturing annually between 1948 and 1973 were re-offered for public subscription at prices to yield from 1.50 to 2.75 per cent and $27,500,000 of 2¼ per cent bonds due in 1974 were offered at 99¾.

NEW YORK, ONTARIO & WESTERN.—*Trackage Rights.*—This road has applied to the Interstate Commerce ommission for authority to acquire trackage rights over the New York, New Haven & Hartford's line between Campbell Hall, N. Y., and Maybrookfi 2.8 miles. The arrangement, permitting O. & W.—N. H. interchange to take place at Maybrook instead of Campbell Hall, would be for the "mutual advantage" of the two roads, with no money consideration involved.

OKLAHOMA CITY-ADA-ATOKA.—*Lease.*—This road has applied to the Interstate Commerce Commission for approval of the terms of its lease of a line of the Missouri-Kansas-Texas from Coalgate, Okla., to Atoka, 13.56 miles, in substitution of the agreement under which it has operated this line.

STOCKYARDS.—*Acquisition.*—The Stockyards Railway Company, a subsidiary of the St. Paul Union Stockyards Company, has applied to the Interstate Commerce Commission for authority to acquire and operate the "railroad" properties of the latter at Billings, Mont. The applicant was organized following the commission's Ex Parte 127 finding that the loading and unloading of livestock is railroad service.

SIOUX CITY TERMINAL.—*Acquisition.*—The Sious City Terminal Railway Company has applied to the Interstate Commerce Commission for authority to acquire by lease, and to operate, the "railroad" properties of the Sioux City Stock Yards Company. The applicant is a subsidiary of the Stock Yards Company, and was organized after the commission found in Ex Parte 127 that the loading and unloading of livestock was railroad service.

SEABOARD AIR LINE.—*Reorganization.*—The Interstate Commerce Commission, Division 4, has denied the application of John F. Dailey, Jr., of North Tarrytown, N. Y., William L. Hadden of West Haven, Conn., Ralph Neumuller of Pelham, N. Y., and Ward Van der Hoof Tolbert of Pelham Manor, N. Y., for authority to solicit authorizations as a protective committee for holders of Seaboard-All Florida first mort-

News Department continued on next left-hand page

Saving Fuel

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WEAR RESISTING PARTS

AND particularly in war time there is no place for leaky valves and cylinders which sabotage locomotive performance and the coal pile. Don't take chances. Protect your road against the loss of fuel and locomotive hauling power by applying HUNT-SPILLER *Air Furnace* GUN IRON cylinder and valve parts.

The resistance of this material to frictional wear and high temperatures has proved to be a big factor in increased locomotive efficiency, low fuel consumption, high monthly mileage and low maintenance cost of modern power. Every one of the H S G I parts listed below offers savings in the cost of locomotive operation, and the more completely equipped, the greater the overall efficiency.

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Cylinder Bushings
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Dunbar Sectional Type Packing
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gage bonds, series A and B, or certificates of deposit for such bonds. The bonds involved have been represented by a previously-organized committee, and the commission found that the new group was formed for the purpose of permitting recent purchasers "to obtain additional financial support from other bondholders for further litigation through which they hope to obtain better treatment for their bonds." The commission added that it had not been shown that formation of the committee "at this stage of the proceeding would be likely to result in any benefit to the bondholders or to the estate."

TREMONT & GULF.—*Deficit Settlement.*—The amount payable to this company under the provisions of section 204 of the Transportation Act of 1920, as amended January 7, 1941, has been fixed by the Interstate Commerce Commission at $21,296.92 from which no amount is deductible as due to the President, as operator of transportation systems under federal control, on account of traffic balances or other indebtedness.

WEST FELICIANA.—*Acquisition.*—The Interstate Commerce Commission has conditionally authorized this company to purchase from the Louisiana & Arkansas a 17.7-mile branch line extending from the Louisiana State Prison Farm at Angola, La., to St. Francisville. The applicant was incorporated on December 15, 1943, for the sole purpose of purchasing and operating the branch, and the conditions imposed by the commission require that it apply for and obtain authority under section 20a of the Interstate Commerce Act to issue the necessary capital stock and notes to finance the $50,000 transaction; that any evidence of indebtedness issued shall be non-negotiable promissory notes payable only to the L. & A.; that the latter shall retain such notes until paid, and, in the event of default, shall repossess the line and resume operation unless otherwise ordered by the commission; that the capital stock issued shall be fully subscribed; that the applicant shall not, for a period of five years, make or agree to any changes in divisions, the result of which would be to diminish its revenue without the approval of the commission as to interstate traffic, and the Louisiana Public Service Commission as to intrastate traffic; and that the Louisiana commission shall have notice of the filing of any schedules making changes in rates or practices applicable to the line.

Average Prices Stocks and Bonds

	Aug. 29	Last week	Last year
Average price of 20 representative railway stocks..	41.10	41.42	37.26
Average price of 20 representative railway bonds..	88.77	89.10	78.90

Dividends Declared

Alabama & Vicksburg.—$3.00, semi-annually, payable October 2 to holders of record September 8.

Boston & Albany.—$2.00, payable September 30 to holders of record August 31.

Erie & Pittsburgh.—7% guaranteed, 80¢, quarterly, payable September 9 to holders of record August 31.

Union Pacific.—Common, $1.50, quarterly; 4% 5% preferred, both $2.50, semi-annually, payable tober 2 to holders of record September 5.

Vicksburg, Shreveport & Pacific.—Common and 5% preferred, both $2.50, semi-annually, payable October 1 to holders of record September 8.

Railway Officers

EXECUTIVES

Robert Blount, vice-president of the Birmingham & South Eastern, has been named president of that road following the death of **Winton M. Blount,** which is reported elsewhere in these columns. Robert Blount is also president of the Southeastern Sand & Gravel Company, Tallassee, Ala.

Charles F. Caley, whose appointment as special assistant to vice-president (operating) of the New York, New Haven & Hartford was announced in the *Railway Age* of August 5, was born on July 1, 1889, at New Haven, Conn. After attending business school at Hartford, Conn., he studied at Brown University, and entered railroading in May, 1908, with the New York, New Haven & Hartford in the freight accounting department, where he filled several positions. In February, 1915, he was named auditor of disbursements, becoming travel-

Charles F. Caley

ing accountant in December, 1918. Two years later he was appointed chief clerk to the division accountant at New Haven, and in February, 1923, became division accountant at New London, Conn. The following year he was transferred to Providence, R. I., and in February, 1927, was named statistician in the general manager's office at New Haven. Appointed special assistant to the general manager in August, 1934, Mr. Caley became transportation analyst in the research department, March, 1937. After serving the Office of Defense Transportation successively as deputy director, rail truck conservation, at New York, and assistant director, car conservation section, at Washington, D. C., during 1942, 1943, and 1944, Mr. Caley returned to the New Haven when he received his new appointment as special assistant to the vice-president (operating), at New Haven.

OPERATING

Wayne A. Johnston, assistant vice-president of the **Illinois Central** with headquarters at Chicago, has been promoted to general manager with the same headquarters. A photograph and biographical sketch of Mr. Johnston appeared in the *Railway Age* of April 28, at the time of his promotion to assistant vice-president.

E. S. Jackson has been appointed assistant to manager, freight transportation, of the New York Central, with headquarters at central terminal, Buffalo, N. Y.

H. M. Tirmenstein has been appointed assistant superintendent of car service, New York Central, to succeed **M. R. Clinton,** who has been named superintendent of car service, at Buffalo, N. Y.

W. E. Curley, trainmaster of the Illinois Central, who has been on leave of absence since 1942 to serve with the Office of Defense Transportation, has returned to the I. C., as assistant superintendent of passenger service, Chicago terminal, with headquarters as before at Chicago.

C. A. Berner, assistant division superintendent of the Canadian National at Smithers, B. C., has been promoted to superintendent of the Smithers division, with headquarters at Prince Rupert, B. C., succeeding **G. A. Glay,** who has been transferred to the Kamloops division, with headquarters at Kamloops, B. C.

W. S. Baker, district superintendent of the Atlantic Coast Line at Tampa, Fla., has been appointed general superintendent of the Charleston & Western Carolina, with headquarters at Augusta, Ga. **L. E. Windham** replaces Mr. Baker as superintendent of the Atlantic Coast Line's Tampa district, and **W. W. Allen** has been named trainmaster of that district, at Tampa, Fla.

Gordon Thomas Dunn, whose appointment as superintendent of the Hornepayne division, Canadian National, was reported in the *Railway Age* of August 12, was born at Bonfield, Ont., on January 21, 1895. He entered railway service as a trainman at Cochrane, Ont., on May 16, 1915, and became a conductor on October 6, 1917. On May 28, 1918, he entered military service, and on his return to the railway in September, 1919, was employed in train service until October 16, 1941, when he was appointed trainmaster at Capreol, Ont. On January 16, 1943, he was promoted to the position of assistant superintendent, Capreol division, and held that post until his recent appointment.

J. R. Talbott, general superintendent of the Norfolk & Western at Roanoke, Va., has retired after 54 years of service with that railway. He is succeeded by **K. V. Conrad,** who in turn is replaced by **C. P. Blair** as superintendent of transporation. **J. W. Kirk,** superintendent of the Shenandoah division at Roanoke, will succeed Mr. Blair as superintendent of the Scioto division at Portsmouth, Ohio, and **F. E. Taylor** will be moved up to superintendent of the Shenandoah division, succeeding Mr. Kirk. He will be replaced as assistant superintendent of the Scioto division by **R. E. McGuire,** former trainmaster at Roanoke. **J. W. Sandridge,** assistant trainmaster, becomes trainmaster to succeed Mr. McGuire. Mr. Talbott, who was born at Ash-

News Department continued on second left-hand page

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"Union" I.T.C. was developed exclusively for railroad use, by men who know railroad needs, and is the *only* system which has been proven in regular railroad service.

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NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

land, Ky., on August 24, 1874, entered the service of the Norfolk & Western as yard and station clerk at Coal Grove, Ohio, in 1890. He was advanced to clerk at Columbus, Ohio, in 1892, and later that same year was transferred to the car record office at Roanoke. In 1899, Mr. Talbott was promoted to the post of traveling car agent; in 1903, to car accountant, and in 1917 he was named superintendent of car service. He was promoted to superintendent of transportation in 1926, and was appointed general superintendent of transportation on January 1, 1942. This position he held until his retirement effective September 1.

TRAFFIC

H. A. Baker, division freight and passenger agent of the St. Louis-San Francisco at Springfield, Mo., has been named traffic manager of that road.

Arthur G. Gutgsell has been appointed eastern traffic manager of the Litchfield & Madison, with headquarters at New York, succeeding **F. N. Hait,** who has retired.

Joseph R. Grimes, commercial agent of the Chicago, Burlington & Quincy, with headquarters at Oklahoma City, Okla., has been promoted to general agent, fuel department, with headquarters at Chicago.

C. R. Warren, division freight agent of the Chesapeake & Ohio, with headquarters at Columbus, Ohio, has been promoted to assistant general freight agent, with the same headquarters, succeeding **I. W. Morris,** who has retired after 50 years service. The position of division freight agent at Columbus is abolished.

J. H. Desherow, general agent, passenger department, of the Southern Pacific, with headquarters at Chicago, has been promoted to passenger traffic manager, with headquarters at New York, succeeding **H. H. Gray,** who has been appointed general passenger agent, with headquarters at El Paso, Tex., at his own request. Mr. Gray replaces **John D. Mason,** who has retired after 20 years service. **William F. Coyne,** assistant general agent, has been advanced to general agent, with headquarters as before at New York.

ENGINEERING & SIGNALING

P. H. Wright has been named superintendent of communications of the Atlantic Coast Line, with headquarters at Savannah, Ga.

H. E. Smith has been appointed acting district engineer of the Canadian National, Montreal district, succeeding **W. H. B. Bevan,** who has been transferred to the Northern Ontario district with headquarters at North Bay.

PURCHASES AND STORES

A. L. Prentice, manager of scrap and reclamation of the New York Central, with headquarters at Cleveland, Ohio, has been appointed general supervisor of reclamation, with headquarters at Ashtabula, Ohio. The position of manager of scrap and reclamation at Cleveland has been abolished.

R. I. Renfrew, assistant general supervisor of stores of the New York Central, has been appointed general supervisor of stores at New York, and his former position has been abolished.

W. R. Prior, storekeeper of the Canadian National at Winnipeg, Man., has been transferred to the Prince Albert Drydock & Shipyard, Ltd., (a subsidiary of the Canadian National), with headquarters at Prince Rupert, B. C.

SPECIAL

L. S. Jeffords has been appointed chief of personnel, Atlantic Coast Line and Charleston & Western Carolina, with headquarters at Wilmington, N. C.

A. J. Hancock, assistant manager of personnel of the Southern Pacific with headquarters at San Francisco, Calif., will retire on September 1 under the company's pension rules. Mr. Hancock began his railroad career in 1899 as an express messenger and

A. J. Hancock

subsequently has served as telegrapher, dispatcher, assistant chief clerk, chief clerk, supervisor of transportation, assistant to general manager, assistant general manager and assistant manager of personnel for the company. From 1934 to 1938 he was a member of the National Railroad Adjustment Board, 4th division.

OBITUARY

Thomas F. Scruby, who retired in 1939 as superintendent of stations and claim prevention, of the Missouri Pacific, with headquarters at St. Louis, Mo., died in a hospital in that city on August 13.

Thomas A. Gregg, who retired in 1941 as assistant to the vice-president in charge of personnel of the Atchison, Topeka & Santa Fe, with headquarters at Chicago, died in a hospital in that city on August 23. Mr. Gregg was born on a farm in Alamance County, N. C., on August 5, 1872. He studied at the Liberty and Piedmont academies in North Carolina and subsequently took extension work at the University of North Carolina. In 1889 he entered railway service as a brakeman on the Richmond & Danville (now part of the Southern) and in 1893 he went with the Norfolk & Western, working in both freight and passenger service as a conductor. During this period he completed a course in law, and in July, 1904, he was elected chairman of the Order of Railway Conductors on the N. & W. In May, 1909, Mr. Gregg was elected vice-president of the O. R. C. at their grand convention, which position he held until 1920, when he was appointed to the position he held at the time of his retirement.

George Nelson Edmondson, who retired in September, 1943, as chief engineer, maintenance of way, of the New York Central, died on August 11 at Short Beach, Conn. He was 64 years old. A photograph and biographical sketch of Mr. Edmondson appeared in the Railway Officers columns of the *Railway Age* for October 9, 1943, at the time of his retirement.

Winton M. Blount, president of the Birmingham & South Eastern and the Tuskegee, died on June 8 at Union Springs, Ala. Mr. Blount was born on July 11, 1890. He saw service in France in the 17th Engineers during World War I, helping to construct the railroad yards at St. Nazaire. In addition to being a railroad executive, he was president of the Tuskegee Asphalt, Sand & Gravel Co.

SHARE-THE-LOCOMOTIVE PLAN.—American and British armies, in an effort to assure maximum use of all equipment on the continent and share as much as possible, have developed a system for the division of steam locomotives. M. R. S. headquarters in the European theater reports that operation of the plan is extremely simple, being solely contingent upon the amount of Allied equipment to arrive and possible losses through enemy action. All locomotives are numbered as they come over, Americans receiving odd-numbered engines (1, 3, 5, 7, etc.) and the British taking the even-numbered ones (2, 4, 6, 8, etc.).

"CONVOY FEEDER"—The need of supplying ample replacement materials to back the invasion and bring a speedy end to the war is the basis of a campaign now being placed in 71 metropolitan daily newspapers along Baltimore & Ohio lines. The advertisement, which is part of the Sixth Co-ordinated Newspaper Campaign of the Eastern railroads, is entitled "Feeding Hungry Convoys," and reports efficient handling of export freight by American railroads.

The message states that "in increased numbers, B. & O. war-trains will thunder over its 11,000 miles of track in the great race to ship-side," and adds that the "hungry conveys of invasion will be well-fed."

THE "BONEYARD EXPRESS" makes a daily run on the Cherbourg Peninsula collecting for salvage and repair wrecked, damaged and abandoned equipment. U. S. Army headquarters, Eastern Theater of Operations, reports that such equipment as cannot be repaired is sent to salvage depots where the materials can be reclaimed.

"Shock-Group" SUPPORT

STYLE A-6-A HOLLAND VOLUTE SNUBBER SPRINGS

Release ONE A. A. R. Coil Truck Spring out of EACH Nest!

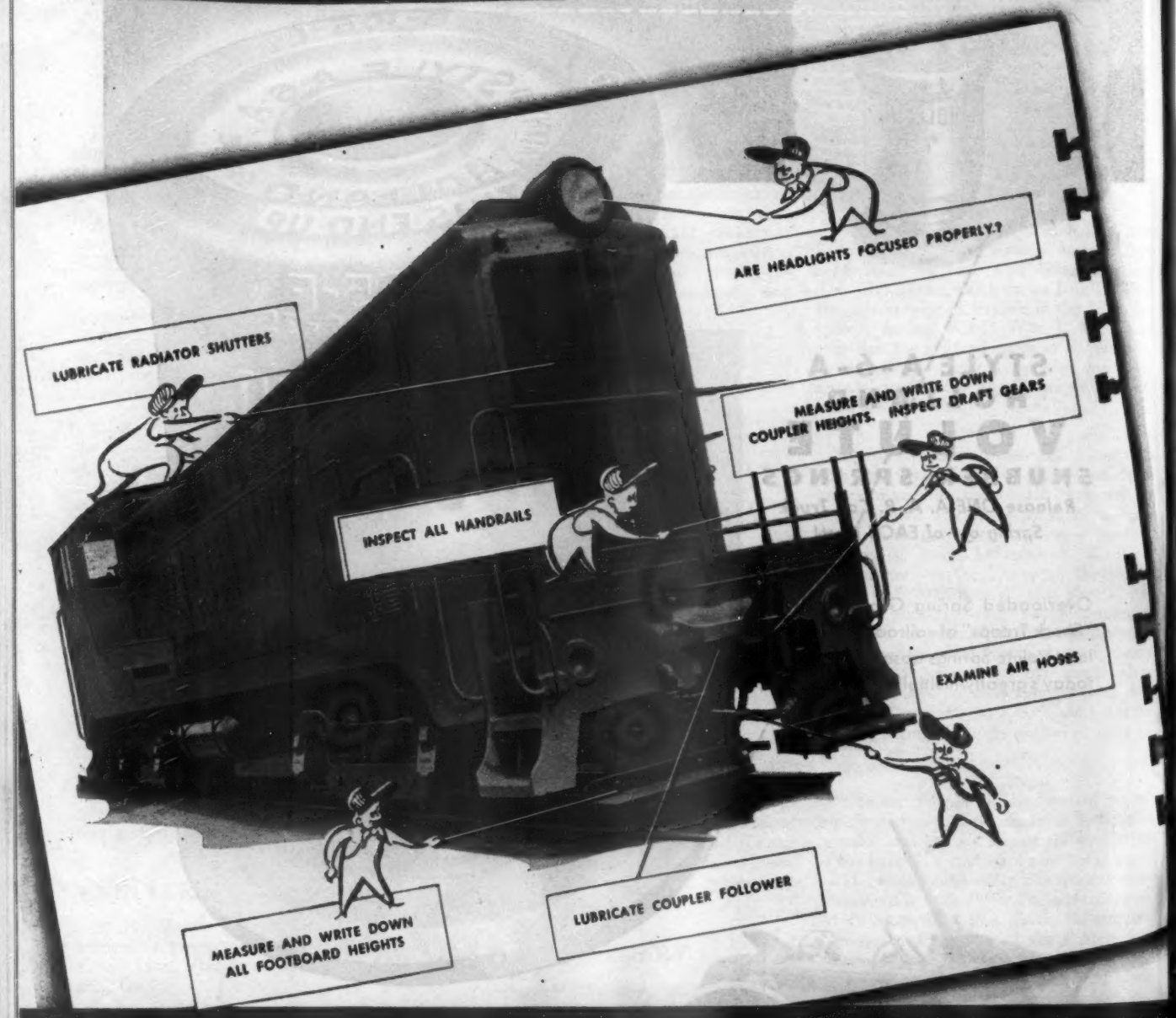
Overloaded Spring Groups are the "Shock Troops" of railroading. Let Holland Volute Springs absorb and cushion today's greatly-multiplied spring shocks.

★ *Uncle Sam uses Volute Springs on many tanks*

SIGNAL CORPS PHOTO

HOLLAND COMPANY 332 SO. MICHIGAN AVE., CHICAGO

This new system helps to *stop trouble* before it starts



Since 1893 Baldwin and Westinghouse have pooled their experience in building electric and diesel-electric locomotives

THE BALDWIN GROUP

BALDWIN

DIESEL-ELECTRIC

Here's an easy way of making sure you take that "Stitch in Time" *ON* time. This new checking system eliminates the danger of slips and omissions because of changes in maintenance crews, spots and records all points to be covered in each inspection period. You can add thousands of trouble-free miles to your Diesel-electric locomotives with no trouble or expense. Mail the coupon for full details.

Keep your locomotives in fighting trim!

Westinghouse

LOCOMOTIVES

THE BALDWIN LOCOMOTIVE WORKS
Advertising Department
Paschall P. O., Phila. 42, Pa.

Please send information on your inspection and maintenance checking system.

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TITLE_____

COMPANY_____

ADDRESS_____

Is War Getting All Your Waste Paper?

How Your Waste Paper Fights!

100 pounds of waste paper when stacked and tied into flat bundles ready to be picked up by a scrap dealer is just about the height of a broom handle. It's pretty harmless-looking, too!—not dramatic—at all!

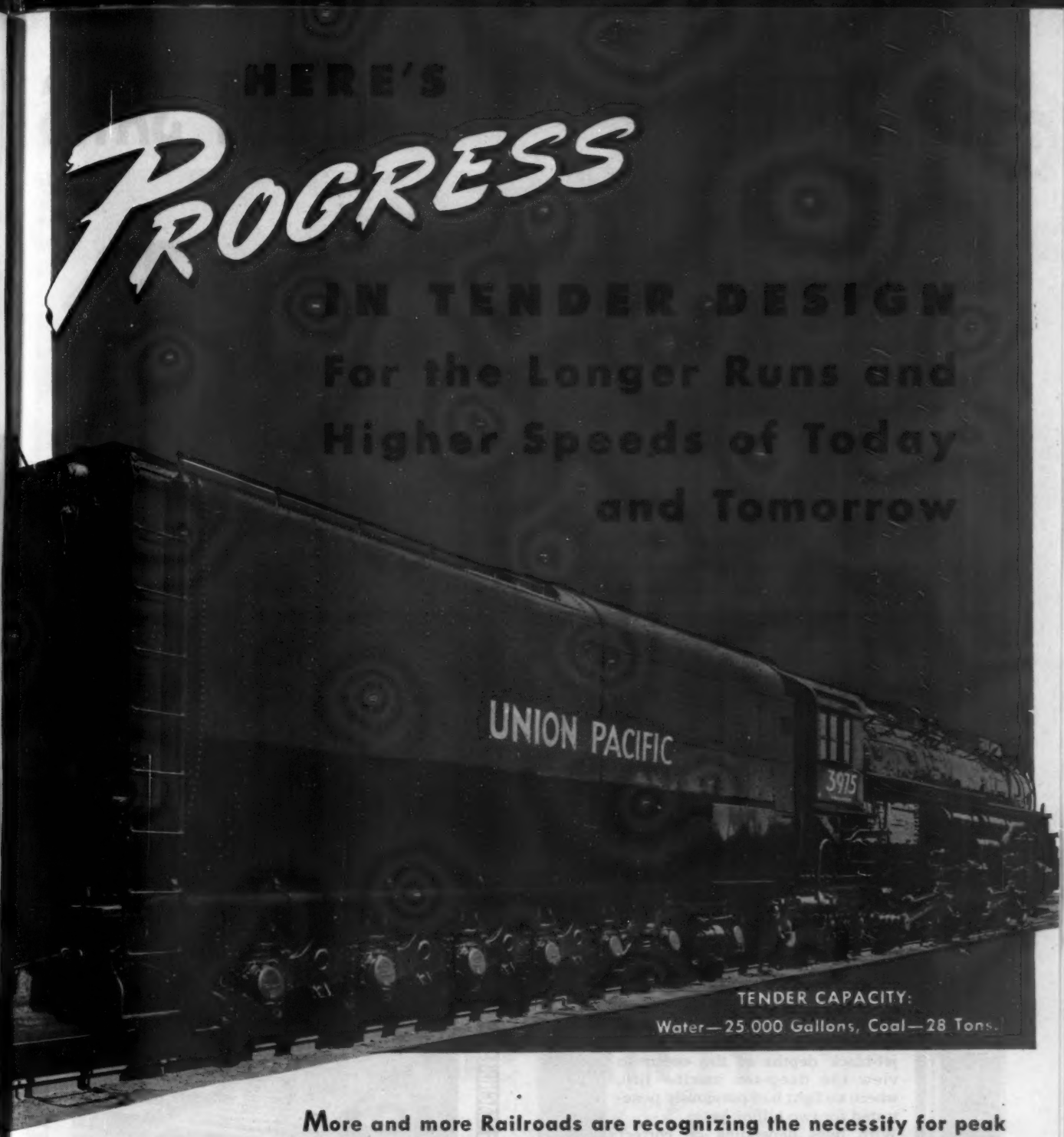
That's where you're ***dead*** wrong! That 100 pounds of waste paper packs a terrible wallop! Here's how it goes to war:—

11 Protective bands for 1,000 pound bombs
17 Protective bands for 500 pound bombs
20 Protective bands for 250 pound bombs
50 Casings for 75 mm. shells
50 V-boxes for food and equipment
100 Casings for average size shells
100 Fin locknut protectors for bombs
115 Cartons each containing ten 20 mm. shells
200 Containers for field rations
200 Containers for blood plasma
650 Cartons for U. S. Army K rations
1,105 Cartons each containing fifteen 50 calibre bullets
1,470 Boxes for emergency life boat rations
2,041 Cartons containing one life preserver light
2,128 Cartons each containing fifty 45 calibre pistol bullets
2,911 Cartons containing ten cartridges for inflating lifeboats

Your waste paper is "1-A"—whether it's in unused files, outdated correspondence, obsolete bookkeeping systems, old personnel records, or still in the waste basket—enlist it today!

This space contributed by

RAILWAY AGE



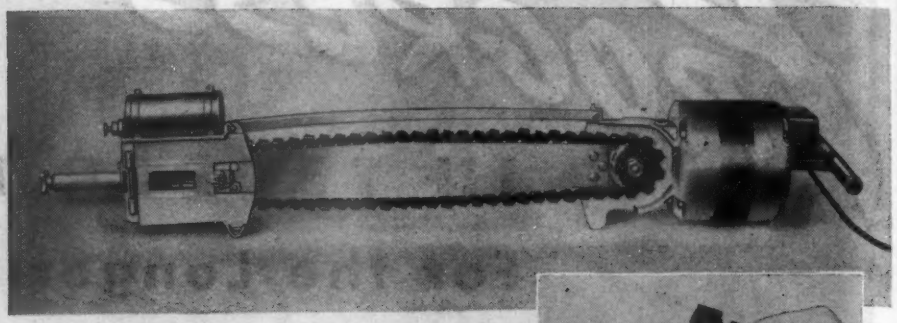
More and more Railroads are recognizing the necessity for peak Locomotive utilization and faster service. Longer Train runs with a minimum number of stops for water and fuel call for high capacity Tenders.

Cooperating to this end, steam Locomotives built with Tenders having COMMONWEALTH TENDER BEDS have greater Tender Capacity within restricted limits—a lower center of gravity—lighter wheel loads—and more uniform distribution of weight at rail, resulting in less abuse to railway track structures.

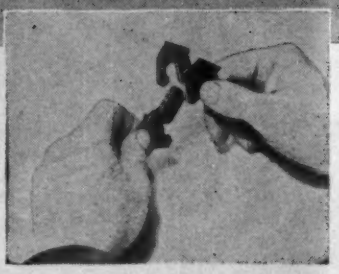
GENERAL STEEL CASTINGS

EDDYSTONE, PA. • GRANITE CITY, ILL.

LOMBARD CHAIN LIGHTNING FOREST SAWS



Seven distinct advantages feature this new time and labor saving Power Chain Saw. Its faster cutting action, longer life and no clogging features make it the ideal timber tool. The chain links are easy to sharpen and quickly replaceable and, because of the narrower kerf, uses much less power.



REPLACEMENT UNITS AVAILABLE

Bring your present Chain Saw equipment up to date with the new Lombard replacement units, giving you all the advantages of a new saw at much less cost.

ARMY NAVY

LG LOMBARD Governor CORPORATION

ASHLAND MASSACHUSETTS

Sales Office: 60 East 42nd Street, New York 17, N. Y.

No light for 2,000,000,000 years

William Beebe descended 3,028 feet in the famous Bathysphere to jet-black depths of the ocean to view the deep-sea marine life, where no light had previously penetrated for two billion years.

With lives depending on correct judgment in the selection of equipment, OKONITE cables were chosen for communications and illumination.

This was just another proof that OKONITE cables are *dependable* under the most severe conditions.

The Okonite Company, Passaic, N. J.

3703

OKONITE

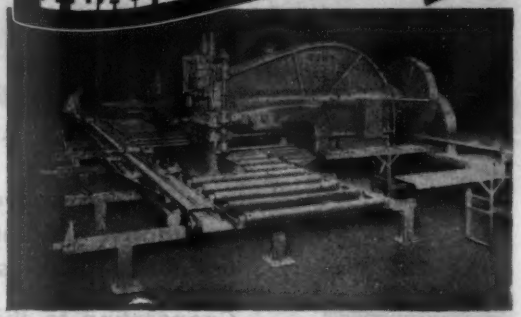
INSULATED WIRES AND CABLES

SPECIAL MACHINERY BUILT ON CONTRACT

BENDING AND STRAIGHTENING MACHINES • ANGLE BENDERS

PUNCHING AND SHEARING MACHINERY

THOMAS PLATE DUPLICATOR



THE Thomas Duplicator is designed for plates too irregular for handling on spacing table, or where work does not warrant setting up for Multiple Punching or where special set-ups would be required.

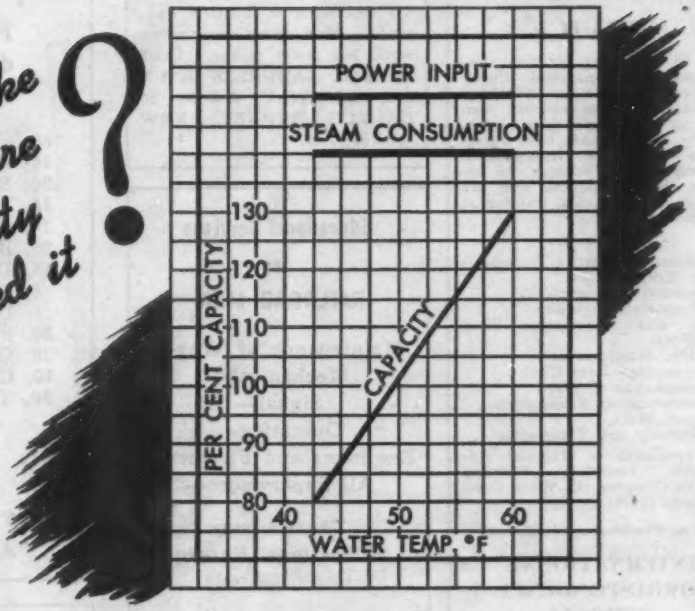
This Duplicator eliminates layout, gives one-man operation and provides quick, accurate positioning. Punches are furnished in various capacities to suit the work.

Ask for new Bulletin 312, just off the press

THOMAS MACHINE MANUFACTURING COMPANY

PITTSBURGH, PA.

How would you like to have 25% more cooling capacity when you need it ?



STEAM EJECTOR EQUIPMENT CAN GIVE IT TO YOU. . .

As the cooling load exceeds the rated capacity of the equipment the temperature of the chilled water rises in proportion to the extra load. This small rise in water temperature automatically steps up the cooling capacity to meet the greater load.

AND MORE TOO!

This extra capacity is yours for no increase in power input or steam consumption.

The SAFETY *System*

RAILWAY PASSENGER CAR AIR CONDITIONING

OPERATES WITH AIR AND WATER

For Economical, Safe Air Conditioning

THE SAFETY CAR HEATING AND LIGHTING COMPANY, INC.

NEW YORK CHICAGO PHILADELPHIA ST. LOUIS
SAN FRANCISCO BOSTON MONTREAL

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RAILROAD EDUCATIONAL SERVICE

For 45 years the Railroad Department — International Correspondence Schools — has been training ambitious railroad men the technique of their work. Nearly 300 railroads have agreements with the International Correspondence Schools to instruct their employees who are interested in technical training at reduced rates.

Courses In:

Railroad Apprentice Training
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We Specialize in Railroad Apprentice Technical Training Courses Covering the Work Done by Each Craft.

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Railway Equipment
and accessories

We can furnish rails, spikes, bolts, angle bars, locomotives, cranes and other railway material. Write, wire or phone for prices.

Sonken-Galamba Corp.
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Kansas City, Kans.

POSITION WANTED

Salesman with long experience in development and sales electrical and mechanical motive power and car equipment, featuring electric catenary and third rail, desires make headquarters Philadelphia—PRR developments and former home. ADDRESS BOX 681, RAILWAY AGE, 30 CHURCH ST., NEW YORK 7, N. Y.

POSITION WANTED
SALES ENGINEER

Over twenty year sales and service experience to Eastern Railroads. Now doing engineering work but prefer selling. Draft exempted. ADDRESS BOX 678, RAILWAY AGE, 30 CHURCH STREET, NEW YORK 7, N. Y.

Educational Services for RAILROAD MEN

Maintenance of Way—
Mechanical—
Signal—
Operating—
Engineers and Firemen—
All Supervisors—

The Railway Educational Bureau
Omaha, Nebraska

DIESEL-ELECTRIC locomotive design engineer-draftsmen wanted by established company planning to enter locomotive field. Good opportunity to get in at beginning. Give full details of training and experience, compensation desired, and references first letter. Reply to BOX NO. 680, RAILWAY AGE, 30 CHURCH STREET, NEW YORK 7, N. Y.

Use Space in this section for results

A Good Investment

For the duration or post-war—save demurrage, switching, extra handling costs, damaging foreign cars, etc.

80, Hopper, Double, 50-Ton
10, Hopper, Side Discharge, 50-Ton
100, Refrigerator, 40-Ft., 40-Ton
16, Refrigerator, 36-Ft., 30-Ton
14, Ballast, Composite, 50-Ton
25, Box, 26-Ft., 40-Ton, Steel Ends
18, Dump, K & J Automatic, 16-Yd., 40-Ton
6, Dump, K & J Automatic, 20-Yd., 40 & 50-Ton
1, Dump, Koppel Drop Door, 20-Yd., 40-Ton
20, Flat, 40-Ft., 50-Ton
38, Gondola, Composite, 36-Ft. & 40-Ft., 40-Ton
10, Gondola, Steel, 50-Ton, High Side
30, Tank, 8000-gallon, 40 & 50 Ton Trucks

All cars are priced to sell!

IRON & STEEL PRODUCTS, INC.
39 years' experience
13486 S. Brainard Ave. Chicago 33, Illinois
"ANYTHING containing IRON or STEEL"

LOCOMOTIVES

1—16x24 American 50-ton saddle tank, 0-4-0
1—19x26 American 67-ton, separate tender, new 1923
2—21x24 Baldwin 78-ton side tanks, 0-6-0, rebuilt
1—21x28 American, 85 ton, separate tender, 0-6-0
4—23x30 American, 114-ton separate tender, 2-8-0, exceptionally fine conditioned engines
1—23x32 Baldwin, 119 ton, Consolidation, 2-8-0, new 1920
1—20-ton Vulcan, std. gauge, gasoline, rebuilt
1—25x30" American, 118 ton, separate tender, 8 wheel switcher, 0-8-0
5—28x32 American, 181 ton, Mikados, 2-8-2

CARS

1—20 cu. yd. Western dump car, rebuilt
4—20 cu. yd. K&J dump cars, rebuilt
10—50-ton twin hopper coal cars
22—50-ton composite gondola cars
100—40-ton box cars, steel underframe, 36' long
1—Brill Model 55 comb. passenger & baggage car

WIRE WRITE PHONE

Thomas F. Carey Co., Inc.
120 LIBERTY STREET, NEW YORK 6, N. Y.
Telephone Barclay 7-1770

Have You Changed Your Address?

Notice of change of address of subscribers should reach the office of *Railway Age*, 30 Church St., New York, ten days in advance to insure delivery of the following issue to new address. In sending notification of change always include the old address as well as the new.

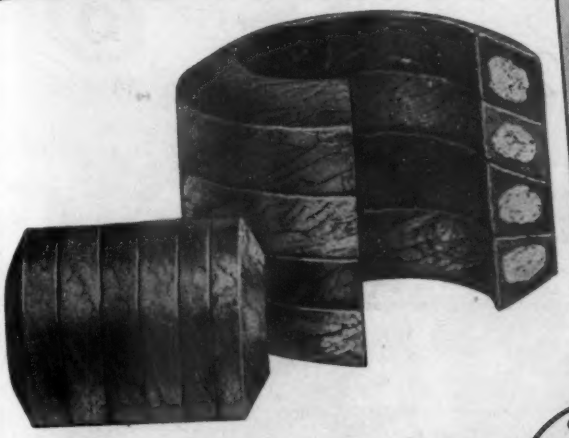
Name .....

Old Address .....

Position..... **Company** .....

New Address .....

DURAMETALLIC Locomotive Stoker Packing . . .



DURAMETALLIC STOKER PACKING — STYLE D- & B-011

IN THE LONG RUN it pays to use a packing engineered for the job . . . that's exactly what you get in Durametallic for locomotive stokers. A flexible metallic packing made with the famous Durametallic "Twist" . . . supplied in die-molded ring sets . . . ready to install in standard stuffing boxes.

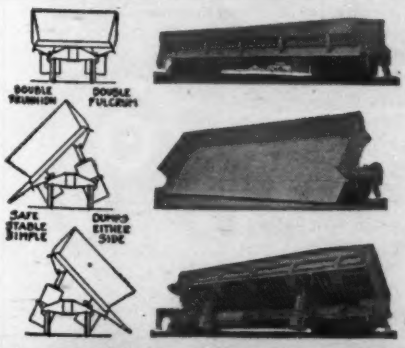
WRITE FOR PRICES AND COMPLETE DETAILS

DURAMETALLIC CORPORATION

KALAMAZOO MICHIGAN

The PERFECT SEAL

Manufacturers of PACKINGS for — AIR PUMPS • STOKERS • EXPANSION JOINTS • CAB COCKS • WATER GAGE GLASS • FEED WATER PUMPS • VALVE STEMS • REVERSE GEARS and DURA HOOK PACKING PULLERS



AIR DUMP CARS

RAIL CARS
MINE CARS
AND
LOCOMOTIVES
AXLESS TRAINS
COMPLETE
HAULAGE SYSTEMS

DIFFERENTIAL STEEL CAR CO.
FINDLAY, OHIO

Our truing shoes do the work while engines and cars are in service. This cut shows style for grooved tires and also shows the depth of grinding material.

WHEEL TRUING
BRAKE SHOE COMPANY
DETROIT, MICHIGAN

THOMAS TRUCK of Keokuk

Safety One Man

BARREL TRUCK

- Trucker never touches barrel
- Automatic loading and unloading
- Sliding two-in-one chime hook
- Safe—no backstrain
- Balanced—truck carries load
- Easy rolling—Hyatt bearings
- Lifetime use—welded steel

A Cinch for One Man

Safer, faster, easier way for one man to handle barrels drums, kegs up to 1000 lbs. Chime hook engages rim and cast steel prongs slide under drum instant trucker pulls truck back. That's all there is to it! Rubber tired wheels.

Write for New Catalog No. 43

THOMAS TRUCK & CASTER CO.

4244 MISSISSIPPI RIVER KEOKUK, IOWA

Index to Advertisers

September 2, 1944

STEEL *in stock at* **RYERSON**

● Ryerson has the steel you need ready for immediate shipment. Ten convenient Ryerson plants stock more than ten thousand kinds, shapes and sizes of steel and allied products. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

Principal Products Include:

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SOUND CONSTRUCTION METHODS
are an important contribution to the operating integrity of Kerite buried cables.
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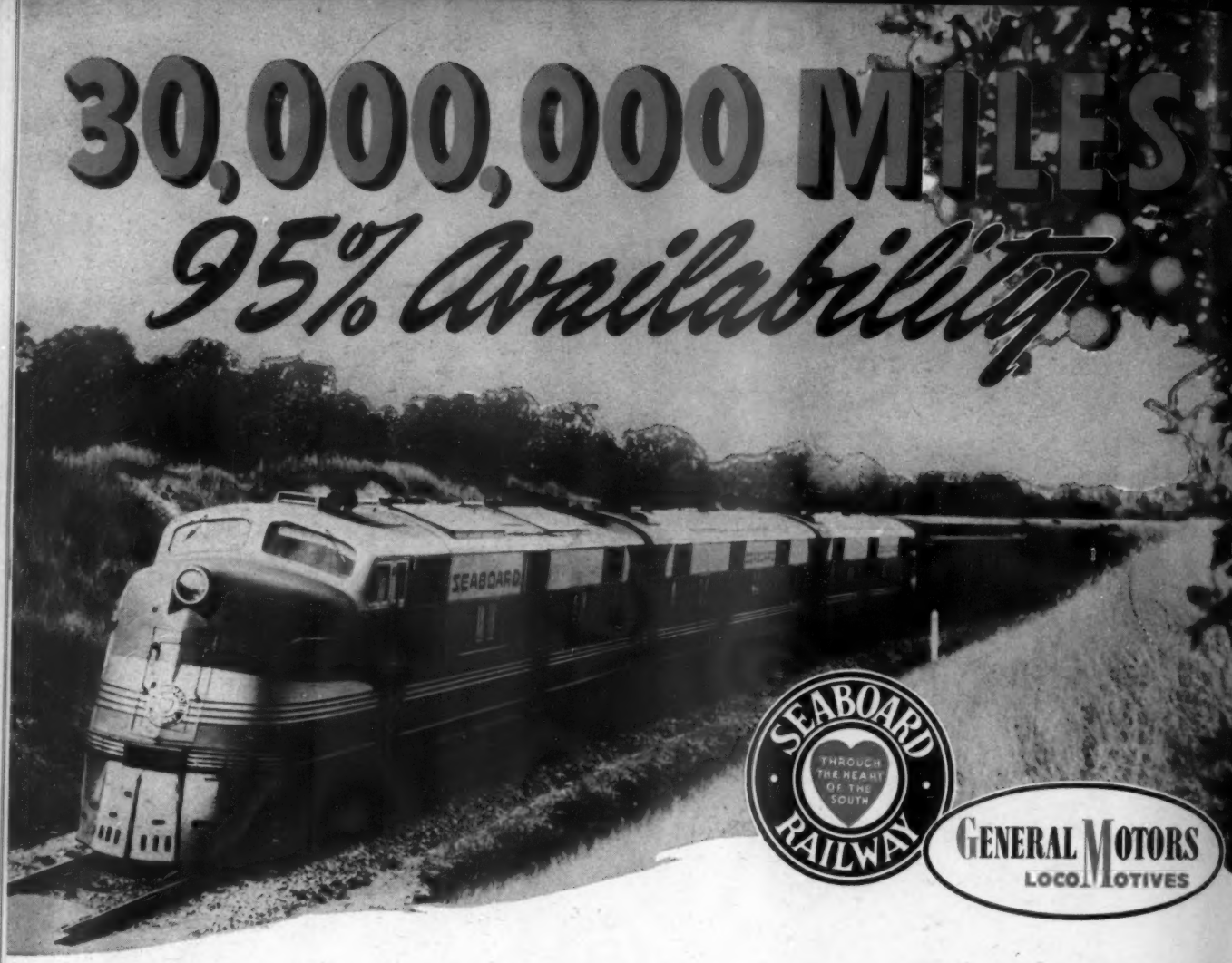
NEW YORK CHICAGO SAN FRANCISCO
Pioneers in Cable Engineering
DAYS KERITE

30,000,000 MILES
95% Availability



IN October 1938, the Seaboard became the first railroad in the South to adopt Diesel motive power for mainline service when General Motors Diesel road locomotives were assigned to the Seaboard's famous fleet of "Silver Meteor" and "Orange Blossom Special" ultra-modern high-speed passenger trains . . . June 1942 witnessed the arrival of the first of eight 5400 Hp. Freight Diesels now in service with more to follow . . . GM Diesel locomotives, in all classes of service, have accumulated approximately 30,000,000 unit miles with an availability record of 95 percent.

★ ***BACK THE INVASIONS — BUY MORE WAR BONDS*** ★

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GENERAL MOTORS CORPORATION — LA GRANGE, ILLINOIS, U.S.A.